DEPARTMENT OF CITY PLANNING

APPEAL RECOMMENDATION REPORT

City Planning Commission

Date: October 12, 2023
Time: After 8:30 A.M.
Place: The meeting's telephone number and access code access number will be provided no later than 72 hours before the meeting on the meeting agenda published at https://planning.lacity.org/about/commissions-boards-hearings and/or by contacting cpc@lacity.org

Public Hearing: August 16, 2023
Appeal Status: Further Appealable to City Council
Expiration Date: October 30, 2023

Case No.: VTT-74745-1A
CEQA No.: ENV-2017-470-EIR
Related Cases: CPC-2017-469-GPA-VZC-HD-MCUP-SPR
Council No.: 14 – de León
Plan Area: Central City North
Plan Overlay: River Improvement Overlay (RIO)
Certified NC: Arts District Little Tokyo
Existing GPLU: Heavy Industrial
Proposed GPLU: Regional Commercial

Existing Zone: M3-1-RIO
Proposed Zone: (T)(Q)C2-2-RIO

Applicant: Dilip Bhavani and Surjit Soni, LIG – 900, 910 and 926 East 4th Street, 405-411 South Hewitt Street, LLC
Representative: Edgar Khalatian, Mayer Brown

Appellant: Supporter's Alliance for Environmental Responsibility (SAFER)
Appellant Representative: Marjan Abubo, Lozeau Drury LLP

PROJECT LOCATION: 900-926 East 4th Street; 406- 414 South Colyton Street; 405-423 South Hewitt Street, Los Angeles, CA 90021

PROPOSED PROJECT: The merger and re-subdivision of a 1.3-acre site into one ground master lot and 12 airspace lots, and a Haul Route for the export of up to 84,300 cubic yards of soil.

REQUESTED ACTIONS: Appeal of the September 1, 2023 Advisory Agency determination which:

1. Pursuant to Sections 21082.1(c) and 21081.6 of the Public Resources Code, the Advisory Agency has reviewed and considered the information contained in the Environmental Impact Report (EIR) prepared for this Project, which includes the Draft EIR, Case No. ENV-2017-470-EIR (SCH No. 2017091054), dated May 26, 2022, and the Final EIR dated July 11, 2023 (4th and Hewitt Project EIR), as well as the whole administrative record; and

   CERTIFIED the following:

   1) The 4th and Hewitt Project EIR has been completed in compliance with the California Environmental Quality Act (CEQA);

2) The 4th and Hewitt Project EIR was presented to the Advisory Agency as a decision-making body of the lead agency; and
3) The 4th and Hewitt Project EIR reflects the independent judgment and analysis of the lead agency.

ADOPTED the following:

1) The related and prepared 4th and Hewitt Project EIR Environmental Findings;
2) The Statement of Overriding Considerations; and
3) The Mitigation Monitoring Program prepared for the 4th and Hewitt Project EIR.

2. Pursuant to Section 17.15 of the Los Angeles Municipal Code (LAMC), **APPROVED**:

   Vesting Tentative Tract Map No. 74745 (stamped map, dated July 11, 2023) for the merger and re-subdivision of a 1.3-acre site into **one ground master lot and 12 airspace lots**, and a Haul Route for the export of up to 84,300 cubic yards of soil.

RECOMMENDED ACTIONS:

1. **Deny** the appeal and sustain the following actions of the Advisory Agency:
2. **Find** that the City Planning Commission has reviewed and considered the information contained in the EIR prepared for this project, which includes the Draft EIR No. ENV-2017-470-EIR (SCH No. 2017091054), dated May 2022, and the Final EIR, dated July 2023 (4th and Hewitt Project EIR), as well as the whole of the administrative record; and

   CERTIFY the following:

   1) The 4th and Hewitt Project EIR has been completed in compliance with CEQA;
   2) The 4th and Hewitt Project EIR was presented to the City Planning Commission as a decision-making body of the lead agency; and
   3) The 4th and Hewitt Project EIR reflects the independent judgment and analysis of the lead agency.

   ADOPT the following:

   1) The related and prepared 4th and Hewitt Project Environmental Findings;
   2) The Statement of Overriding Considerations; and
   3) The Mitigation Monitoring Program prepared for the 4th and Hewitt Project EIR.

3. **Approve** Vesting Tentative Tract No. VTT-74745 (stamped map, dated July 11, 2023) for the merger and re-subdivision of a 1.3-acre site into one ground master lot and 12 airspace lots, and a Haul Route for the export of up to 84,300 cubic yards of soil; and

4. **Adopt** the Advisory Agency’s Conditions of Approval and Findings.

VINCENT P. BERTONI, AICP
Director of Planning

Milena Zasadzien, Principal City Planner

Mindy Nguyen, Senior City Planner

Jason McCrea, City Planner
Deputy Advisory Agency

Bob Babajian
Planning Assistant

ADVICE TO PUBLIC: *The exact time this report will be considered during the meeting is uncertain since there may be several other items on the agenda. Written communications may be mailed to the Commission Secretariat, 200 North Spring Street, Room 272, Los Angeles, CA 90012 (Phone No. 213-978-1300). While all written communications are given to the Commission for consideration, the initial packets are sent to the week prior to the Commission's meeting date. If you challenge these agenda items in court, you may be limited to raising only those issues you or someone else raised at the public hearing agendized herein, or in written correspondence on these matters delivered to this agency at or prior to the public hearing. As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability, and upon request, will provide reasonable accommodation to ensure equal access to this programs, services and activities. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request not later than three working days (72 hours) prior to the meeting by calling the Commission Secretariat at (213) 978-1300.

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Exhibits:

Environmental Impact Report (EIR) links:
Draft EIR: https://planning.lacity.org/development-services/eir/4th-and-hewitt-project-0
Final EIR: https://planning.lacity.org/development-services/eir/4th-and-hewitt-project-1

APPEAL ANALYSIS

BACKGROUND

On September 1, 2023, the Deputy Advisory Agency approved a Vesting Tentative Tract Map (VTTM) for the merger and re-subdivision of a 1.3-acre site into one ground master lot and 12 airspace lots, and a Haul Route for the export of up to 84,300 cubic yards of soil, for the 4th and Hewitt Project (Project), a proposed 18-story office development with ground-floor commercial uses.

The Project proposes the demolition of an existing office building, two storage/garage buildings, and surface parking lots, to allow for the construction of an 18-story office building (Office Building) comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,249 square feet of covered exterior employee common areas and a 3,500 square-foot ground floor courtyard accessible from Colyton Street and Hewitt Street. The Project would total 340,770 square feet of floor area, comprised of an existing 7,800 square-foot building (the bow-truss building) and the new 332,970 square-foot Office Building, on a 1.3-acre lot, for a Floor Area Ratio (FAR) of 6:1, and a building height of 292 feet to the top of the parapet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking. The VTTM approval is related to Case No. CPC-2017-469-GPA-VZC-HD-MCUP-SPR. This case will be heard by the City Planning Commission concurrently with the subject appeal.

APPEAL

The Deputy Advisory Agency issued a letter of determination on September 1, 2023, certifying the Project's EIR and approving the VTTM. A timely appeal of the Deputy Advisory Agency's decision were filed on September 11, 2023 by Lozeau & Drury LLP on behalf of the Supporter's Alliance for Environmental Responsibility (SAFER). Pursuant to LAMC 17.06 A.3, appeals of a VTTM are made to the Appeal Board, which in this case is the City Planning Commission. Once the City Planning Commission renders their decision on the appeal, the decision may be further appealed to the Los Angeles City Council, if an appeal is filed pursuant to Section 17.06 A.4 within 10 days of the issuance of the Letter of Decision.

APPEAL POINTS AND STAFF RESPONSES

The September 11, 2023 appeal primarily references comments in an attached letter which were previously submitted by SAFER on August 15, 2023. Following publication of the Project's Final EIR, Lozeau & Drury LLP, on behalf of SAFER, submitted a letter, dated August 15, 2023 (August 15, 2023 Letter), providing comments on the EIR primarily focused on concerns regarding impacts from air quality, greenhouse gases (GHGs), biological resources, and indoor air quality, as well the Project's Statement of Overriding Considerations (SOCs). The Supplemental Environmental Responses to these comments are attached as Exhibits D and E and available in the subject case file.

As detailed in the Supplemental Environmental Responses (Exhibits D and E), the City found that the issues raised in the Lozeau & Drury LLP August 15, 2023 Letter lacked merit and credible evidence that the Project would result in new or substantially increased impacts than what was analyzed in the EIR, that there is significant new information, or that any of the other criteria for recirculation under CEQA Guidelines Section 15088.5 has been met. Therefore, recirculation of the Draft EIR was not required.

Below is a summary of the main points raised in the Lozeau & Drury August 15, 2023 Letter, VTTM Appeal, and Planning Staff's responses. It should be noted that the Appellant submitted the August 15, 2023 Letter as justifications for the appeal. However the Appellant's justification cover letter (See Exhibit A, SAFER Appeal, PDF pg. 5) introduces two new claims that were not included in the August 15, 2023 Letter; 1) the Project does not comply with the City's Zoning Code and 2) that its members will be subject to environmental impacts unless the Project implements proper mitigation. For reference, a link to the Draft and Final EIR is provided in the Table of Contents of this Report.

Given the content of the appeal, this appeal response report is provided to the City Planning Commission in order to address the appeal points raised by the appellant, and to provide clarity where necessary for purposes of assisting the Commission in their consideration of the Project and the appeal.

<u>Appeal Point 1</u>

The Project does not comply with the City's Zoning Code.

<u>Staff Response 1</u>

While the Appellant makes an unsubstantiated claim that the Project does not comply with the City's zoning code and fails to explain how the Project does not comply, the Vesting Tentative Tract Staff Report correctly included the required Subdivision Tract Map Findings from Sections 66473.1, 66474.60, 66474.61 and 66474.63 of the State of California Government Code, and from the LAMC (See PDF pgs. 84 through 92 of Exhibit B). Further, the required findings for the Project's requested General Plan Amendment, Vesting Zone Change and Height District Change, Main Conditional Use Permit, and Site Plan Review entitlements are included in the Project's concurrent CPC staff report. The Project complies with the City's Zoning Code.

As described in the Draft EIR, Chapter II, Project Description, and Section IV.H, Land Use and Planning, as well as in Response to Comment No. 5-12 of Chapter II, Responses to Comments, of the Final EIR, the Project includes a request for the following entitlements: 1) A General Plan Amendment to the Central City North Community Plan to change the land use designation from Heavy Industrial to Regional Commercial; 2) A Vesting Zone Change and Height District Change from the M3-1-RIO Zone to the C2-2-RIO Zone; 3) A Main Conditional Use Permit for the sale and/or dispensing of a full line of alcoholic beverages for on-site consumption for up to six establishments and associated outdoor dining areas; and 4) Site Plan Review for a project resulting in an increase of more than 50,000 gross square feet of non-residential floor area. In addition, the Project also includes a tract map and haul route request. All of the requested entitlements are subject to the City's discretionary approval.

As further evaluated in the Draft EIR, Section IV.H, Land Use and Planning (pages IV.H-16 through IV.H-33), and Appendix I, Land Use Policy Consistency Tables, of the Draft EIR, the Project, as proposed with these requested entitlements, would not be in conflict with the requirements and policies of the Southern California Association of Governments' 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the City General Plan (and applicable elements, including the Framework Element, Mobility Plan, Central City North Community Plan, and Plan for a Healthy Los Angeles), the LAMC, the Citywide Design Guidelines, and the River Improvement Overlay District, that were specifically adopted for the purpose of avoiding or mitigating an environmental effect. As conveyed in the Draft EIR analysis, Project impacts related to land use and planning would be less than significant. As the Project complies with the City's Zoning Code, and the Project does not result in land use conflicts, the appeal point should be denied.

Appeal Point 2

Unless the Project's impacts related to air quality and traffic congestion are properly mitigated, SAFER's members will be subject to the air quality, traffic, and other environmental impacts.

Staff Response 2

Both the Draft EIR and Final EIR were completed in full compliance with CEQA, impacts to air quality and transportation were determined to be less than significant, and all feasible mitigation measures to address potentially significant impacts were implemented and are enforceable through Conditions of Approval of the Tract Map. The Appellant's claim is not supported by substantial evidence. In addition, specific concerns regarding air quality environmental impacts raised by the Appellant are addressed in Staff Response to Appeal Points 3 and 4, below. As such, the appeal point should be denied.

Appeal Point 3

The Appellant contends that the EIR's air quality model contained incorrect and unsubstantiated input parameters, and, as a result, the EIR's air model may have underestimated emissions. In particular, with respect to the EIR's air quality modeling, the Appellant asserts that the input values for the Project's construction phases differ between the Draft and Final EIR, the reduction in the number of cubic yards of grading is calculated incorrectly, and the Project's operational solid waste generation is unfounded.

Further, with respect to the Project's construction phases, the Appellant asserts that no justification for the changes to the air quality model's default assumptions were provided, while explanations provided for the reduction in grading and generation of operational solid waste are insufficient and should not be relied upon. The appeal includes an analysis by Soil/Water/Air Protection Enterprise (SWAPE) in support of these contentions.

Staff Response 3

The Project's emissions modeling provided in the EIR does not underestimate the Project's construction activity emissions and the Appellant provides no credible evidence that the Project would have a significant impact on air quality. The Appellant claims that the EIR has underestimated emissions associated with certain phases of construction and objects to how each phase was analyzed in California Emissions Estimator Model (CalEEMod). The Appellant is correct in noting that changes to the Project's construction years were accounted for in the Final EIR as the construction schedule was updated from 2021-2023 in the Draft EIR, to 2022-2025 in the Final EIR. However, the Project's assumptions for each construction phase did not change in the Draft and Final EIR. As stated on PDF pg. 61, Appendix B, Air Quality Impact Analysis, of the Draft EIR and PDF pg. 2, Appendix FEIR-B, Revised California Emissions Estimator Model, of the Final EIR, the construction phases for the Project would be 25 days of demolition, 70 days of site preparation and grading, 547 days of construction, and 70 days of paving and architectural coating. As disclosed in the Draft and Final EIR and as recognized by SWAPE (see Exhibit A, SAFER Appeal, PDF pg. 23), the inputs entered into the quality model did include justifications for the Project's specific construction phase assumptions, as required by the model. The justifications stated above were necessary to account for the Project's specific construction phases. Further, as explained in the Draft EIR, the construction phase lengths were developed in coordination with the Applicant team, including the contractor.

In addition, the application of the Project's Tier 4 Final construction equipment (included in the Draft EIR as AQ-PDF-1) was entirely removed from the Project's air quality model in the Final EIR to demonstrate that the Tier 4 Final construction equipment is not necessary to ensure that the Project's construction air quality emissions are less than significant. No other changes were made to the Project's construction activity inputs.

The graded acreage input values in CalEEMod are based on the Project-specific construction data that was provided by the Applicant team and contractor. The graded acreage is calculated by the model based on the type of construction equipment and the number of equipment pieces, the number of days needed to complete the grading phase (and site preparation phase, where applicable), and the operational capabilities of the equipment to be utilized.

Inputs for the Project's operational solid waste generation correctly accounted for compliance with Assembly Bill 341 which requires the City to divert 75 percent of its solid waste generated from landfills. The City is required to comply with the State regulation to divert 75 percent of solid waste generated within City boundaries. The Appellant cites no evidence about the Project to suggest it could not comply with the requirements of AB 341, or that the City could not rely on the Project's compliance with this legal requirement. As a result, the Project's construction and operational emissions are not underestimated, and the EIR adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality. Therefore, the appeal point should be denied.

Appeal Point 4

The Appellant alleges that the Project will have a significant health risk impact and that the EIR failed to address health impacts from the Project's air quality emissions, particularly from the release of diesel particulate matter (DPM) during construction activities and daily truck trips during operation of the Project. Further, the Appellant contends that the Project's construction Health Risk Assessment (HRA) is inadequate because it failed to quantify the Project's construction and operational activities.

Staff Response 4

Section IV.A, *Air Quality*, of the Draft EIR analyzed and disclosed the potential for the Project to cause adverse health impacts from exposure to TACs from the Project's construction and operational emissions consistent with CEQA Guidelines Section 15126.2(a). As discussed therein, as well as in Section III, Revisions, Clarifications, and Corrections, of the Final EIR, with respect to Project construction, the Project would be consistent with both the 2016 and 2022 South Coast Air Quality Management District (SCAQMD) Air Quality Management Plans' strategies intended to reduce emissions from construction equipment and activities, which include the use of cleaner construction equipment. The Project would comply with regulatory mandates including the California Air Resources Board (CARB) Air Toxic Control Measure that limits idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation for the use of cleaner construction equipment. Consistent with and supportive of the goals of these regulatory mandates to minimize emissions and exposure to emissions, as described in Project Design Feature AQ-PDF-1, all diesel-powered equipment utilized on-site during the construction of the Project would be required to meet a minimum of Tier 4 emissions reduction technology.

The construction of the Project will not result in the generation of hundreds of daily truck trips or uses that will emit excessive TAC emissions during operation of the Project. Further, the Project will not result in cumulative air quality impacts, thus, the request for a quantitative HRA is unwarranted.

In addition, the SCAQMD has not adopted guidance that requires quantitative health risk assessments be performed for short-term exposures to TAC emissions. As disclosed in the Draft

EIR, health effects from TACs for sensitive residential receptors are described in terms of individual cancer risk based on a long-term resident exposure duration (i.e., resident lifetime or 70-year). Given the temporary and short-term construction schedule (approximately 30 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of Project construction. Therefore, a construction HRA is neither required nor warranted.

The SCAQMD has published and adopted the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The Project would not include any of these uses; therefore, an operational HRA is neither required nor warranted.

Although neither a construction nor an operational HRA for the Project is required (for the reasons discussed above), a construction HRA was initially prepared, for informational purposes only, in response to a Draft EIR comment that alleged a construction HRA was necessary, to further support the Draft EIR's less-than-significant finding with respect to TAC emissions. The construction HRA was included in the Final EIR, Appendix C, Construction HRA. As discussed in further detail therein, the results of the construction HRA demonstrate that the health risks from TAC emissions from Project construction would not exceed the SCAQMD significance threshold. The HRA further confirms the Draft EIR's less-than-significant impact finding with respect to construction TAC emissions.

With regard to health risks during operation of the Project, the Appellant suggests incorporating particulate (or PM10) exhaust emissions, as reported in the Project's air quality analysis, as a surrogate for DPM to address operational emissions. For this source category, CalEEMod predictive model estimates are associated with area, energy, and mobile sources. On-site area source emissions include hearths and landscape maintenance equipment. Energy-related emissions are associated with natural gas and electricity consumption. On-road mobile sources include running and start emissions. In consideration of these source categories, DPM emissions are only associated with a portion of the mobile source profile whereby the predominant source of emissions relates to vehicle miles traveled to and from the Project Site. Although a portion of start emissions are generated on-site, they are associated with gasoline fueled vehicles and not diesel vehicles. The proposed land uses would not generally involve the use of heavy-duty diesel trucks with the exception of occasional moving trucks, trash trucks, or delivery trucks. As detailed in Response to Comment No. 4A-4, in Chapter II, Responses to Comments, of the Final EIR, the SCAQMD published and adopted the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (such as, freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The SCAQMD recommends that HRAs be conducted for substantial sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units). The Project is estimated to generate only 15.43 truck trips per day (refer to Final EIR Response to Comment No. 4A-4 for calculation details), and therefore is not considered to generate substantial sources of DPM

For stationary emissions during Project operations, the use of a proposed diesel-fueled emergency standby generator was identified as the only on-site DPM emission source. Such equipment that is located within the South Coast Air Basin is subject to the SCAQMD's permitting and operating procedures, which specify limits on maintenance and testing use as well as emission rates based on the generator's engine size. The SCAQMD maintains a list of certified internal combustion engine emergency generators. The certification of equipment assures compliance with the SCAQMD regulations by identifying equipment that already meets their rule requirements. As explained in Response to Comment No. 4A-4 in Chapter II, Responses to Comments, of the Final EIR, the MTU/Rolls-Royce2 unit proposed to be used in the Project's Office Building is included on the list. Based on these factors and SCAQMD guidance, an operational HRA of proposed land uses and their effect on sensitive receptors in the Project area is not warranted.

Nevertheless, similar to the construction HRA that was prepared for informational purposes only and in response to the Draft EIR comment letter, an operational HRA was prepared for the Project to evaluate the carcinogenic and noncarcinogenic health risks associated with operation of the emergency generator. The operational HRA, including the detailed methodology and results, is included as Attachment B in Exhibit D Supplemental Environmental Responses of this Report. As stated therein, the cancer health risk for the maximum exposed residential receptor for each occupancy would be below the significance threshold of one in one hundred thousand (or 10 in one million). Furthermore, an evaluation of the potential noncancer effects of DPM exposure was also conducted. These effects include the exacerbation of chronic heart and lung disease, including asthma and decreased lung function in children. The hazard index for the respiratory endpoint totaled less than one for all sensitive receptor occupancies. Should the total equal or exceed one, a health hazard is presumed to exist. Therefore, the Project's noncancer health risk impact would also be less than significant.

Finally, the Appellant did not prepare a construction, operational, and/or quantitative HRA as substantial evidence to support their claims that the Project will have a significant health impact. As such, the appeal point should be denied.

Detailed responses to the issues raised by the Appellant above, are provided in Exhibit D Supplemental Environmental Responses, PDF pgs. 2-5.

Appeal Point 5

The Appellant asserts that the Final EIR fails to demonstrate that the Project would have a less than significant GHG impact for the following reasons: the Project's air quality emissions were underestimated when the default values in the air quality model were changed to Project-specific values; the failure to compare the Project's GHG emissions to SCAQMD's 2035 service population efficiency target threshold; The Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact; and the EIR's estimate that the Project would have an 18 percent reduction of GHG emissions compared to the No Action Taken (NAT) scenario is unreliable as the Final EIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario.

Staff Response 5

As explained under Staff Response 3 above, the Project's emission modeling provided in the Draft EIR does not underestimate the Project's construction and/or operation emissions as the model's default input values were correctly changed to Project-specific values. The Project's CalEEMod output files contain input values that are consistent with information disclosed in the Draft and Final EIR and as required by CalEEMod justification for the changes is provided. The Project's construction and operation air quality and/or GHG emissions were not underestimated and the Project's GHG emissions would remain less than significant.

The Appellant claims that when the Project's GHG emissions are compared to SCAQMD's 2035 service population efficiency target threshold, the impact would be significant and unavoidable. As discussed in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR and in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, the City, SCAQMD, CARB, CAPCOA, or the Office of Planning and Research have not adopted numeric thresholds for assessing GHG emissions that are applicable to the Project.

Contrary to the Appellant's approach of comparing the Project's GHG emission to SCAQMD's 2035 service population efficiency target threshold, CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project: the extent to which the project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs.

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as CAPCOA, as long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to SB 97 to specify that compliance with a GHG emissions reduction plan renders a cumulative impact less than significant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Therefore, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of a less than significant impact for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

In the absence of any applicable adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project is consistent with applicable regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is 2020–2045 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the State's long-term climate goals. The analysis also considers qualitative consistency with regulations or requirements adopted by the AB 32 2022 Scoping Plan and the Green New Deal.

Notwithstanding, the Project's GHG analysis did calculate the amount of GHG emissions that would be attributable to the Project using the recommended air quality model. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project. The analysis provided in Chapter IV.E of the Draft EIR, Greenhouse Gas Emissions, demonstrates that the Project would not conflict with applicable plans, policies, and regulations for reducing greenhouse gas emissions and impacts would be less than significant.

The Appellant reiterates that the Project would result in an 18 percent reduction of GHG emissions compared to the NAT scenario but states that the finding is unreliable, because the EIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. Contrary to the Appellant's assertion, the NAT scenario CalEEMod is provided in Appendix F of the Draft EIR (refer to Greenhouse Gas Emissions Estimates – Without MXD/TDM [mixed-use development/transportation demand management]), as explained in Table IV.E-8 of Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR. Additionally, as discussed in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, and in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR, there are no SCAQMD-adopted or City-adopted numeric thresholds to apply to the evaluation of GHG impacts. Therefore, there are no quantitative standards for determining that the Project's GHG emissions would result in significant environmental impacts and the appeal point should be denied.

Appeal Point 6

The Appellant claims that the Project will likely have a significant impact on biological resources as a result of birds colliding with the Project's windows and other wildlife being struck by vehicles. The Appellant provides a memorandum to support this conclusion.

Staff Response 6

The Project's Initial Study correctly concluded that the Project would have a less than significant impact regarding the movement of any native resident or migratory wildlife species/corridor. The Appellant's suggestion that the Project will result in large numbers of avian window collision fatalities and wildlife deaths/injuries caused by vehicles is based on personal anecdotal evidence, surveys from databases, and scientific articles without specifying how it relates to the Project's location. The Project Site is entirely developed and has been operating as an urban use for decades. The Project Site and vicinity are not known to be wildlife or migratory corridors or within a special-status species critical habitat. There is no evidence that an urbanized location with already existing low-, mid-, and high-rise buildings could increase collision fatalities of birds or evidence of an avian migration corridor existing within the Project Site.

The Appellant claims that the Project failed to show substantial evidence that the Project would have a less-than-significant impact on biological resources, specifically birds colliding with the 18-story Office Building. However, it was determined that such impacts would be less than significant in the Project's Initial Study. As described in the Initial Study, the Project Site is located in a highly urbanized area with minimal vegetation. The Site is not located adjacent to the Los Angeles River and does not contain sensitive natural communities or habitat identified by City or regional plans or in regulation by the California Department of Fish and Wildlife (CDFW) or USFWS. The Appellant's assertion is unfounded in stating that the City should have prepared/reviewed wildlife surveys for the Project Site and without a survey the existing environmental setting cannot be known.

It should be noted that the Appellant did not submit a comment during the Project's NOP/Scoping comment period which would have been the pertinent time to inform the City of potential significant and unavoidable biological impacts that were being scoped out of the Initial Study. Further, while the Appellant did submit a Draft EIR comment, the letter was comprised of only general statements. While CEQA provides various opportunities for public comment, the Appellant failed to raise any concern regarding the City's analysis of biological resources during the Project's EIR review period.

The summarized bird fatality and wildlife numbers provided by the Appellant were taken from multiple sources across the United States. The Appellant cites that the Bear Divide, a migratory pathway for birds, increases the chance of migratory birds around the Project Site; however the Bear Divide is located more than 20 miles away from the Project Site. Only one of the sources regarding wildlife mortality was focused in California, however it was for a study completed in Contra Costa County, approximately 360 miles north of the Project Site. None of the referenced studies were focused on the site and its vicinity. The majority of the sources provided had monitoring that was conducted in rural or suburban landscapes and, thus, are not representative of an urban environment such as Downtown Los Angeles. The Appellant does not provide credible evidence to support the assertion that the avian species identified by the commenter are dying from window collisions and/or that other wildlife species are being killed by vehicles in downtown Los Angeles or even in southern California.

As correctly noted by the Appellant, the EIR does not include any mitigation measures regarding impacts to biological resources; however, as impacts were determined to be less than significant, no mitigation is required. Therefore, the appeal point should be denied.

<u>Appeal Point 7</u>

The Appellant maintains that the Project would have a significant impact on indoor air quality resulting from formaldehyde emissions.

<u>Staff Response 7</u>

The Appellant's speculation that the Project will be constructed with building materials with significant amounts of formaldehyde is not supported by credible evidence, primarily citing a review by Mr. Francis "Bud" Offerman, an industrial hygienist. There are no requirements or guidance from the SCAQMD or relevant agencies to evaluate such risk from indoor air quality. In fact, indoor air quality is not within the jurisdiction of SCAQMD. Mr. Offerman contends that the Project's future full-time employees would be exposed to a cancer risk of approximately 17.7 per million, exceeding the SCAQMD significant threshold of 10 per million. However, this threshold is intended to be used to evaluate the increase in cancer risk above ambient conditions (i.e., outdoor air). Therefore, the application of the 10 in one million threshold for indoor air quality is not appropriate. Further, the speculation that the Project could have an effect on the Project employees, is not considered to be an impact under CEQA and need not be analyzed in the Project's EIR. Moreover, as required by law, the Project would comply with Section 5.504.4, Finish Pollutant Material Control, of the L.A. Green Building Code, which requires hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in CALGreen Table 5.504.4.5. Further, Section A5.504.4.5.1 of the L.A. Green Building Code requires composite wood products to be approved by the ARB as no-added formaldehyde (NAF) based resins or ultra-low emitting formaldehyde (ULEF) resins. Compliance with these requirements would be verified by the Department of Building and Safety through the plan approval process and as noted in item 23 of the City of Los Angeles Building Code Plan Check

Notes—Form GRN-15.[1] As such, the Project would not have a significant impact on indoor air quality resulting from formaldehyde and the appeal point should be denied.

Appeal Point 8

The Appellant contends that the Project must implement further mitigation measures to reduce the Project's significant air quality, health risk, GHGs, and biological impacts.

Staff Response 8

The Appellant suggests additional mitigation measures are required to reduce air quality, GHG, and biological resource impacts; however, the Project EIR determined that impacts to these categories will be less than significant. As described above, the Appellant has failed to provide substantial credible evidence demonstrating an increase or additional changes to the impacts identified in the Project's EIR. Pursuant to PRC Section 21080(c), substantial evidence includes fact, a reasonable assumption predicted upon fact, or expert opinion supported by fact and is not argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment. As such, no further mitigation measures are warranted. Therefore, the appeal point should be denied.

Appeal Point 9

The Appellant correctly states that the Project would result in significant and unavoidable construction noise and vibration impacts and is required to adopt a SOC. The Appellant notes that the City is required to make certain findings one of which includes "…the provision of employment opportunities for highly trained workers…" The Appellant contends that the Project EIR and its supporting documents fail to provide substantial evidence to support the SOC and the City cannot find that the Project's economic benefits outweigh the environmental costs as it is not known at this time what the economic benefits will be.

Staff Response 9

Findings made pursuant to Section 15043(b) do not require that a project specify what employment opportunities for highly trained individuals would be created by the project but rather that the City make a finding that specific economic, legal, social, technological, or other considerations, which can include the provision of employment opportunities for highly trained workers, outweigh the significant effects of the Project on the environment. The EIR provides ample evidence that the benefits of the Project outweigh the temporary construction noise and vibration impacts. The Project would support regional and City land use and environmental goals by developing a commercial Project that serves the community and further supports goals and objectives of the Central City North Community Plan. The Project includes features to support the goals of the 2020–2045 RTP/SCS that address improving the productivity of the region's transportation system and supporting an integrated regional development pattern and transportation network. The Project would contribute to the needs of the City's existing and future residents, businesses, and visitors by developing an underutilized site with a contemporary commercial development with office and ground floor restaurant uses that would result in employment opportunities and tax revenue for the City by providing a net increase of 1,270 jobs, by generating sales, property, and business license tax revenues. Additionally, the Project would represent smart growth through the intensification of urban uses within the Arts District area in close proximity to transit and housing; and representing sustainable development through

[1] See City of Los Angeles Building Code Plan Check Notes—Form GRN-15, www.ladbs.org/docs/default-source/forms/green-building-2017/green-building-code-plan-check-notes-non-residential-buildings.pdf.

compliance with the Los Angeles Green Building Code and CALGreen and by incorporating additional energy conservation features and sustainability measures required to achieve LEED Silver certification. As such, the benefits of the Project, including employment, and opportunities for people to work, and recreate within one site, would outweigh the effects of the significant and unavoidable impacts of the Project, all of which are temporary construction impacts.

Each of the above-listed Project benefits provides a separate and independent grounds for the City's decision to approve the Project despite the Project's identified significant and unavoidable environmental impacts. Each separately and independently outweighs the adverse environmental impacts of the Project and justifies approval of the Project and certification of the completed EIR. In particular, achieving the underlying purpose for the Project would be sufficient to override the temporary significant environmental construction impacts of the Project. As such, the City is justified in making a finding that the Project's numerous economic, social, aesthetic, and environmental benefits outweigh its significant, unavoidable, and temporary environmental impacts. Therefore, the appeal point should be denied.

Conclusion

Upon in-depth review and analysis of the issues raised by the Appellant for the Project, no substantial evidence exists of errors or abuse of discretion committed by the Advisory Agency in regard to the appeal points raised. The EIR is comprehensive and has been completed in full compliance with CEQA. As demonstrated by the responses to the appeal points, and as set forth in further detail in Exhibits D and E Supplemental Environmental Responses, there are no new impacts or substantial increases in previously identified impacts that would result from the comments raised herein. No substantial evidence has been provided that would require the recirculation of the Draft EIR. The Advisory Agency correctly made the findings of approval consistent with the Subdivision Map Act, LAMC, and the provisions of CEQA. Therefore, in consideration of all the facts, Staff recommends the City Planning Commission deny the appeal of the decision of the Advisory Agency and approve Case No. VTT-74745.

Exhibit A
SAFER Appeal
VTT-74745-1A

APPLICATIONS:

APPEAL APPLICATION

Instructions and Checklist

Related Code Section: Refer to the City Planning case determination to identify the Zone Code section for the entitlement and the appeal procedure.

Purpose: This application is for the appeal of Department of City Planning determinations authorized by the Los Angeles Municipal Code (LAMC).

A. APPELLATE BODY/CASE INFORMATION

1. APPELLATE BODY

☐ Area Planning Commission ☑ City Planning Commission ☐ City Council ☐ Director of Planning
☐ Zoning Administrator

Regarding Case Number: VTTM No. 74745

Project Address: 900-926 E. 4th St., 406-414 S. Colyton St., and 405-423 S. Hewitt St., Los Angeles, CA

Final Date to Appeal: 09/11/2023

2. APPELLANT

Appellant Identity: (check all that apply)

☐ Representative ☐ Property Owner
☐ Applicant ☐ Operator of the Use/Site

☑ Person, other than the Applicant, Owner or Operator claiming to be aggrieved
Supporters Alliance for Environmental Responsibility

☐ Person affected by the determination made by the **Department of Building and Safety**

☐ Representative ☐ Owner ☐ Aggrieved Party
☐ Applicant ☐ Operator

3. APPELLANT INFORMATION

Appellant's Name: Supporters Alliance for Environmental Responsibility

Company/Organization: Lozeau Drury LLP (representing Appellant)

Mailing Address: 1123 Park View Drive, Suite 300

City: Covina State: CA Zip: 91724

Telephone: (510) 836-4200 E-mail: marjan@lozeaudrury.com

a. Is the appeal being filed on your behalf or on behalf of another party, organization or company?

☑ Self ☐ Other: ______

b. Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

4. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): Marjan Abubo

Company: Lozeau Drury LLP

Mailing Address: 1939 Harrison Street, Suite 150

City: Oakland State: CA. Zip: 94612

Telephone: (510) 836-4200 E-mail: marjan@lozeaudrury.com

5. JUSTIFICATION/REASON FOR APPEAL

a. Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

b. Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: ____________________

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

☑ The reason for the appeal ☑ How you are aggrieved by the decision

☑ Specifically the points at issue ☑ Why you believe the decision-maker erred or abused their discretion

6. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: ____________________ Date: 09/08/2023

GENERAL APPEAL FILING REQUIREMENTS

B. ***ALL CASES REQUIRE THE FOLLOWING ITEMS - SEE THE ADDITIONAL INSTRUCTIONS FOR SPECIFIC CASE TYPES***

1. Appeal Documents

a. Three (3) sets - The following documents are required for each appeal filed (1 original and 2 duplicates) Each case being appealed is required to provide three (3) sets of the listed documents.

☐ Appeal Application (form CP-7769)
☐ Justification/Reason for Appeal
☐ Copies of Original Determination Letter

b. Electronic Copy

☐ Provide an electronic copy of your appeal documents on a flash drive (planning staff will upload materials during filing and return the flash drive to you) or a CD (which will remain in the file). The following items must be saved as individual PDFs and labeled accordingly (e.g. "Appeal Form.pdf", "Justification/Reason Statement.pdf", or "Original Determination Letter.pdf" etc.). No file should exceed 9.8 MB in size.

c. Appeal Fee

☐ Original Applicant - A fee equal to 85% of the original application fee, provide a copy of the original application receipt(s) to calculate the fee per LAMC Section 19.01B 1.
☐ Aggrieved Party - The fee charged shall be in accordance with the LAMC Section 19.01B 1.

d. Notice Requirement

☐ Mailing List - All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC
☐ Mailing Fee - The appeal notice mailing fee is paid by the project applicant, payment is made to the City Planning's mailing contractor (BTC), a copy of the receipt must be submitted as proof of payment.

SPECIFIC CASE TYPES - APPEAL FILING INFORMATION

C. DENSITY BONUS / TRANSIT ORIENTED COMMUNITES (TOC)

1. Density Bonus/TOC
Appeal procedures for Density Bonus/TOC per LAMC Section 12.22.A 25 (g) f.

NOTE:
- Density Bonus/TOC cases, <u>only</u> the *on menu or additional incentives* items can be appealed.

- Appeals of Density Bonus/TOC cases can only be filed by adjacent owners or tenants (must have documentation), and always <u>only</u> appealable to the Citywide Planning Commission.

☐ Provide documentation to confirm adjacent owner or tenant status, i.e., a lease agreement, rent receipt, utility bill, property tax bill, ZIMAS, drivers license, bill statement etc.

D. WAIVER OF DEDICATION AND OR IMPROVEMENT
Appeal procedure for Waiver of Dedication or Improvement per LAMC Section 12.37 I.

NOTE:
- Waivers for By-Right Projects, can <u>only</u> be appealed by the owner.

- When a Waiver is on appeal and is part of a master land use application request or subdivider's statement for a project, the applicant may appeal pursuant to the procedures that governs the entitlement.

E. TENTATIVE TRACT/VESTING

1. Tentative Tract/Vesting - Appeal procedure for Tentative Tract / Vesting application per LAMC Section 17.54 A.

NOTE: Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed <u>within 10 days</u> of the <u>date of the written determination</u> of said Commission.

☐ Provide a copy of the written determination letter from Commission.

F. BUILDING AND SAFETY DETERMINATION

☐ **1.** Appeal of the <u>*Department of Building and Safety*</u> determination, per LAMC 12.26 K 1, an appellant is considered the **Original Applicant** and must provide noticing and pay mailing fees.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with LAMC Section 19.01B 2, as stated in the Building and Safety determination letter, plus all surcharges. (the fee specified in Table 4-A, Section 98.0403.2 of the City of Los Angeles Building Code)

b. Notice Requirement
☐ Mailing Fee - The applicant must pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt as proof of payment.

☐ **2.** Appeal of the <u>*Director of City Planning*</u> determination per LAMC Section 12.26 K 6, an applicant or any other aggrieved person may file an appeal, and is appealable to the Area Planning Commission or Citywide Planning Commission as noted in the determination.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with the LAMC Section 19.01 B 1 a.

b. Notice Requirement
☐ Mailing List - The appeal notification requirements per LAMC Section 12.26 K 7 apply.
☐ Mailing Fees - The appeal notice mailing fee is made to City Planning's mailing contractor (BTC), a copy of receipt must be submitted as proof of payment.

G. NUISANCE ABATEMENT

1. **Nuisance Abatement -** Appeal procedure for Nuisance Abatement per LAMC Section 12.27.1 C 4

NOTE:
- Nuisance Abatement is only appealable to the City Council.

a. Appeal Fee

☐ Aggrieved Party the fee charged shall be in accordance with the LAMC Section 19.01 B 1.

2. **Plan Approval/Compliance Review**

Appeal procedure for Nuisance Abatement Plan Approval/Compliance Review per LAMC Section 12.27.1 C 4.

a. Appeal Fee

☐ Compliance Review - The fee charged shall be in accordance with the LAMC Section 19.01 B.
☐ Modification - The fee shall be in accordance with the LAMC Section 19.01 B.

NOTES

A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.

Please note *that the appellate body must act on your appeal within a time period specified in the Section(s) of the Los Angeles Municipal Code (LAMC) pertaining to the type of appeal being filed. The Department of City Planning will make its best efforts to have appeals scheduled prior to the appellate body's last day to act in order to provide due process to the appellant. If the appellate body is unable to come to a consensus or is unable to hear and consider the appeal prior to the last day to act, the appeal is automatically deemed denied, and the original decision will stand. The last day to act as defined in the LAMC may only be extended if formally agreed upon by the applicant.*

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

Justification/Reason for Appeal

4th and Hewitt Project

VTTM No. 74745; ENV-2017-470-EIR

I. REASON FOR THE APPEAL

Supporters Alliance for Environmental Responsibility ("SAFER") appeals the Advisory Agency's approval of the Vesting Tentative Tract Map (VTT-74745) for the 4th and Hewitt Project (CPC-2017-469-GPA-VZCHD-MCUP-SPR; ENV-2017-470-EIR) ("Project"). The Vesting Tentative Tract Map approval is invalid because it is based upon incorrect findings. In particular, the Environmental Impact Report ("EIR") prepared for the Project fails to comply with the California Environmental Quality Act ("CEQA"). The City of Los Angeles ("City") must set aside all Project approvals and circulate a revised EIR prior to considering approvals for the Project.

II. SPECIFICALLY THE POINTS AT ISSUE

Specifically, for the reasons described in the attached comment letter dated August 15, 2023, the EIR fails to adequately analyze the Project's environmental impacts and fails to impose all feasible mitigation measures to reduce the Project's impacts including, but not limited to, impacts to air quality, health, greenhouse gases, and biological resources. The Project also fails to include a Statement of Overriding Considerations (SOC) that the project's economic benefits outweigh its environmental costs, including the consideration of employment opportunities for highly skilled workers. Additionally, the Project does not comply with the City's zoning code. A revised EIR must be prepared to remedy these issues.

Because the EIR prepared for the Project fails to comply with CEQA, the approval of the Project's Vesting Tentative Tract Map was in error. Proper CEQA review must be complete *before* the City approves the Project's entitlements. (*Orinda Ass'n. v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171 ["No agency may approve a project subject to CEQA until the entire CEQA process is completed and the overall project is lawfully approved."].) Additionally, by failing to properly conduct environmental review under CEQA, the City lacks substantial evidence to support its findings for the Vesting Tentative Tract Map approvals. The City must fully comply with CEQA prior to *any approvals* in furtherance of the Project.

III. HOW YOU ARE AGGRIEVED BY THE DECISION

Members of appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

IV. WHY YOU BELIEVE THE DECISION-MAKER ERRED OR ABUSED THEIR DISCRETION

The Advisory Agency adopted the EIR and approved a Vesting Tentative Tract Map for the Project despite a lack of substantial evidence that impacts would be less than significant and a failure to impose all feasible mitigation measures to reduce the Project's impacts. The Department of City Planning should therefore have prepared a revised EIR and recirculated the revised document prior to consideration of approvals for the Project. The City is not permitted to make any approvals in furtherance of the Project until the EIR's deficiencies are remedied.

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
1939 Harrison Street, Ste. 150
Oakland, CA 94612
www.lozeaudrury.com
Marjan@lozeaudrury.com

August 15, 2023
Via Email

Hearing Officer
Kathleen King, City Planner
City of Los Angeles
221 North Figueroa Street
Los Angeles, CA 90012
Kathleen.king@lacity.org

Re: Comment on Final Environmental Impact Report for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), August 16, 2023 Hearing Officer Hearing – Agenda Item No. 1

Dear Ms. King,

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Final Environmental Impact Report ("FEIR" or "Final EIR") prepared for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), proposed by the Applicant LIG – 900, 910 and 926 E. 4th St., 405-411 S. Hewitt St., LLC (the "Applicant"), including all actions related or referring to the 18-story office building that would provide a total of 343,925 square feet of floor area, and three subterranean levels of parking (SCH No. 2017091054) (the "Project").

After reviewing the FEIR, SAFER concludes that it fails as an informative document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, fails to consider the aerosphere as avian habitat, and fails to support its statement of overriding considerations with substantial evidence. SAFER therefore respectfully requests that the City of Los Angeles ("City") Department of City Planning deny approval of the FEIR, and to instead direct the City's Planning Division staff to address these shortcomings in a revised Environmental Impact Report ("REIR"), to be recirculated in accordance with the public review provisions of the California environmental Quality Act ("CEQA"). Public Resources Code, section 21000 et. seq.

SAFER's review of the EIR has been assisted by air quality experts Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D., of the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE") (CV and comments attached as Exhibit A); expert wildlife biologist Dr. Shawn Smallwood, PhD (comments attached as Exhibit B); and indoor air quality expert and Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH (CV and comments attached as Exhibit C).

PROJECT DESCRIPTION

The Project, located at 900-926 E. 4th Street; 406-414 S. Cloyton St.; and 405-423 S. Hewitt St., proposes to demolish an existing building, two storage/garage buildings, and surface parking lots. In its place, the Project will allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street.

The Project will include a total of 343,925 square feet of gross floor area, comprised of an existing 7,800 square-foot (existing Architecture and Design Museum) building and a new 336,125 square-foot office building, which would include approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space, 16,294 square feet of office exterior common areas, and a height of 292 feet to the top of the parapet and a maximum height of 297 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking, and the ground floor would also include 112 bicycle parking spaces.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See*, e.g.* Pub. Res. Code § 21100). The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652). "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 109).

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 CCR § 15002(a)(1)). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. ("*Goleta Valley*").

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *Goleta Valley*, 52 Cal.3d at 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (14 CCR §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it

has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B)). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal. App. 4th at 1355). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

(*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510).

"Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516). Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" (*Id.*). "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*). Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence. (*Id.* at 514.)

As applied this Project, the FEIR abjectly fails to meet these legal standards, as it is riddled with conclusory statements lacking any factual support or analysis. SAFER finds that the FEIR prepared for the Project is inadequate for the reasons set forth below.

DISCUSSION

I. Substantial Evidence Shows that the Project Will Have Significant Air Quality and Greenhouse Gas Impacts.

Air quality experts Matt Hagemann, P.G., C.Hg. and Dr. Paul E. Rosenfeld, PhD of the environmental consulting firm SWAPE reviewed the EIR and concluded that the Project will have significant air quality and greenhouse gas impacts. SWAPE's comments and expert CVs are attached as Exhibit A.

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

The Project's estimated emissions are underestimated. SWAPE reviewed the FEIR's CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs [were] not consistent with [the] information disclosed in the DEIR." (Ex. A., p. 2.).

SWAPE found that the EIR presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (*Id*., p. 3.) This is notable because the CalEEMod User Guide explicitly requires the Project to justify any changes to model defaults. (*Id*., p. 4). In the absence of any justification, the EIR "fails to provide substantial evidence to support the revised *individual* construction phase lengths." (*Id*., p. 3) (emph. added). As SWAPE explains, "[b]y including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance." (*Id*.) Therefore, the model provided for the Project "may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (*Id*., p. 4).

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14 CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to

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

b. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Health Risk Impact

The EIR fails to address potential health-related impacts resulting from the Project's likely air emissions. This is problematic because operation of construction equipment during construction of the proposed Project, as well as daily truck trips during future operations, will release diesel particulate matter ("DPM") emissions into the air, affecting local and regional air quality. DPM is a known human carcinogen which poses unique health risks to nearby sensitive receptors. Importantly, CEQA requires a quantified analysis to determine whether a Project's toxic air contaminant ("TAC") emissions—including DPM emissions—will have potentially adverse impacts on human health.

Current guidance by the Office of Environmental Health Hazard Assessment ("OEHHA"), the agency responsible for setting statewide standards to measure health risks under CEQA, recommends that a quantified Health Risk Assessment ("HRA") be prepared to evaluate potential cancer risks for any short-term construction project lasting more than two months, and for the lifetime of any long-term project lasting more than six months. OEHHA guidance also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk affecting the maximally exposed individual resident ("MEIR") near a proposed Project site. (*Id*., p. 10.) A project's imposition of health risks upon impacted MEIRs is further evaluated according to the sensitive receptor's age and pregnancy status. (*Id*., p. 14.)

Construction of the proposed Project is expected to last 30 months, and it is reasonable to assume, in the absence of any contrary assertion by the EIR, that future building operations will continue on the site for at least 30 years. Therefore, as SWAPE observes, "These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation." (*Id*., p. 9.)

Contrary to this established regulatory framework, however, the FEIR failed to prepare a quantified HRA for the Project's planned construction and operations. As such, the FEIR fails to present substantial evidence showing that the Project will not have a significant health impact, despite known health risks that will directly result from the Project's construction-related DPM emissions, its generation of hundreds of daily vehicle trips, and its projected TAC emissions that will impact local air quality during construction and future operations. (*Id*., pp. 8-9.) The FEIR additionally "fails to evaluate the combined lifetime cancer risk as a result of Project

construction and operation together" as it compares to the South Coast Air Quality Management District's ("SCAQMD") established significance threshold of 10 per million. (*Id*., p. 9.)

c. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Greenhouse Gas Impact

SWAPE rebuts the FEIR's unfounded assertions that the Project's greenhouse gas ("GHG") emissions will be less than significant. (*Id*., p. 11.). Specifically, SWAPE concludes that the Project's FEIR analysis and conclusion regarding the less-than-significant GHG impact is incorrect because the FEIR's quantitative GHG analysis relies on a flawed air model, the air model indicates a potentially significant GHG impact, and the FEIR fails to provide the CalEEMod model for the "No Action Taken" (NAT) scenario. (*Id*.).

First, SWAPE explains the FEIR's quantitative analysis is unsubstantiated because, as explained earlier, several input values are inconsistent with information provided in the FEIR. As SWAPE indicates, "the models may underestimate the Project's emissions, and the FEIR's quantitative analysis should not be relied upon to determine Project significance." Furthermore, in comparing the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold, SWAPE found that "the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact," thereby emphasizing how reliance on the FEIR's less-than-significant GHG impact conclusion to be improper.

Lastly, SWAPE found that the FEIR's estimate that the Project would have an 18% reduction of GHG emissions compared to the NAT scenario is unreliable because the FEIR "fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario." (*Id*., p. 13). As such, the FEIR's conclusion is not supported by substantial evidence and should be deemed invalid. Instead, before any approval on this Project is made, a revised FEIR should be prepared and recirculated to include an updated GHG analysis and incorporate additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels." (*Id*., p. 11-13.).

II. The Project Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Biological Resources Impact.

Expert Wildlife Biologist, Dr. Shawn Smallwood, PhD, has reviewed the FEIR and all relevant documents regarding the Project's biological impacts, notably on avian species. Based on this review, Dr. Smallwood concludes that the Project will likely impact bird species flying along the Los Angeles River. Dr. Smallwood is a leading expert on wildlife biology and has published extensively on the topic. Dr. Smallwood's CV and expert comments are attached as Exhibit B.

As a preliminary matter, Dr. Smallwood highlights the Project's failure to adequately analyze the Project's impact on wildlife movement. Given the Project's close proximity to the Los Angeles River and the newly constructed 6th street viaduct and the future green space/parks

system in underneath the bridge, as well as the likelihood of bird flight paths passing through the Bear Divide, "ample evidence is available that the site is important to wildlife in the region." (*Id*., p. 8). As such, the Project's failure to adequately assessment and analyze issues that the Project may raise on biological impacts underlines how the FEIR fails as an informational document.

In particular, Dr. Smallwood explains how the Project's height and proposed expansive windows on its façade come into direct conflict with the airspace normally used by birds. "Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors." (*Id*.). Additionally, bird collision issues are not time-restricted, especially since birds fly during both day and night. Dr. Smallwood expresses concern regarding the Project's potential to increase nighttime bird collisions, explaining how "[s] uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment." (*Id*., p. 6).

Given how birds protected under the Migratory Bird Treaty Act and California Migratory Bird Protection Act constitute the vast majority of the deaths along the Bear Divide, Dr. Smallwood opines that the Project's failure to neither analyze nor adequately provide mitigation measures to reduce bird collisions and deaths would result in a potentially significant biological impact. Therefore, a Final EIR "should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the Project." (*Id*., p. 11).

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

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the EIR and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future employees working at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann's CV and expert comments are attached as Exhibit C.

a. Future Employees Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. C., p. 2.)

Mr. Offermann explains that many composite wood products typically used in building materials and furnishings commonly found in offices, warehouses, residences, and hotels contain

formaldehyde-based glues which off-gas formaldehyde over a very long period of time. He states that "[t]he primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (*Id*., pp. 2-3.)

Mr. Offermann concludes that future full-time employees working at the proposed Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, ***even assuming*** that all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (*Id*., p. 4.) This risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

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

The EIR's failure to address the Project's formaldehyde emissions is also 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*"). In that case, the Supreme Court held that potentially adverse impacts to future users and residents resulting from a Project's environmental impacts must be addressed by the CEQA review process.

The issue before the Court in *CBIA* was whether an air district could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of existing environmental conditions that occurred near a project site. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects *on a project* (*CBIA*, 62 Cal.4th at 385-88). However, it ruled that agencies must still consider the extent to which a project may *exacerbate existing environmental conditions* at or near a project site, insofar as those conditions may affect the project's future users or residents. (*Id*. at 388.) Specifically, the Supreme Court wrote, 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 387 [emph. added].)

The Supreme Court's reasoning in *CBIA* is well-grounded in CEQA's statutory language. CEQA expressly identifies a project's effects on human beings as an effect that must be addressed as part of 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 386.) 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 future employees of the Project are human beings. It is therefore unquestionable that the health and safety of those workers is subject to CEQA's environmental safeguards.

b. The EIR Must Be Revised to Analyze and Mitigate the Project's Significant Adverse Indoor Air Quality and Health Impacts.

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 proposed Project will have significant impacts on health and air quality by emitting cancer-causing levels of formaldehyde into the air that will expose future employees working at the Project site to cancer risks potentially in excess of SCAQMD's significance threshold of 10 per million.

The carcinogenic formaldehyde emissions which Mr. Offermann identified are not an existing environmental condition. To the contrary, those emissions will be caused *by the Project* and will result in adverse effects on the environment. If built without appropriate mitigation, the Project will slowly emit formaldehyde over long periods of time to levels that pose significant direct and cumulative health risks to Project residents. Mr. Offermann underlines how "the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifie[d] an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air." (*Id*., pp. 4-5).

As noted above, the Supreme Court in *CBIA* expressly found that a Project's environmental impacts, including those that affect a "project's users and residents," must be addressed by the CEQA review process. Therefore, an EIR must be prepared to identify existing levels of TAC emissions near the Project site – such as those resulting from heavy daily truck traffic along the neighboring I-5 and I-10 freeways and corresponding industrial neighborhoods close to the Project site – and the impact that those will have on the health of future employees. Moreover, an EIR must evaluate the *cumulative adverse health effects* that will affect future employees as a result of the Project's indoor formaldehyde emissions *and* existing off-site TAC emissions.

Mr. Offermann concludes that these significant impacts should be analyzed in an EIR and that additional mitigation measures should be imposed to reduce the significant health risks that will result from indoor formaldehyde emissions. (*Id*., pp. 11-13.). Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and

health impacts which the EIR has failed to address. Therefore, the City must therefore prepare a REIR to fully evaluate and mitigate these impacts to the Project's future employees.

IV. The Project Must Implement Further Mitigation Measures to Reduce the Project's Significant Air Quality, Health Risk, Greenhouse Gas, and Biological Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564). Beyond its analysis of the FEIR's numerous analytical flaws, SWAPE, Dr. Smallwood, and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may be feasibly implemented to reduce the Project's significant air quality, human health, greenhouse gas, and biological impacts. This includes, as SWAPE suggests, considering the applicability of "incorporating solar power system into the Project design." (Ex. A, p. 17). Otherwise, other feasible measures include, but are not limited to, the following:

For issues related to air quality impacts:

- Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit;
- The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
    - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%
    - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
    - Nonroad diesel engines on site shall be Tier 2 or higher.
    - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
    - Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.

  - Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

For issues related to indoor air quality impacts:

- Imposing a requirement that the Applicant install air filters throughout the building; and
- Commit to using only composite wood materials that are made with CARB approved no-added formaldehyde (NAF) resins, or ultra-low emitting formaldehyde (ULEF) resins, for all of the buildings' interior spaces.

For issues related to GHG impacts:

- Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible;
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions;
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies;
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

For issues related to biological impacts:

- At a minimum, the Project should adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco, which includes adopting the following actions:
- 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; and
- funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care.

SAFER has presented substantial evidence that feasible mitigation measures exist to further reduce the Project's adverse impacts. Therefore, a revised FEIR must be developed to comply with CEQA by further analyzing the Project's likely adverse impacts and considering implementation of each of these proposed measures. The revised FEIR should "demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible." (*Id*., p. 17.) Until

such consideration of the feasibility of incorporating these mitigation measures has been analyzed, the Project should not be approved.

V. The FEIR Fails to Sufficiently Justify a Statement of Overriding Considerations.

The Project would result in significant and unavoidable impacts relative to specific noise impacts, including, off-road construction equipment noise, composite construction noise levels, off-road construction activity vibration (building damage), onroad construction vehicle vibration (human annoyance), cumulative off-road construction equipment noise, cumulative composite construction noise levels, and cumulative onroad construction vehicle vibration (human annoyance). (DEIR, p. I-11). As a result, the City will need to adopt a statement of overriding considerations. Under CEQA, when an agency approves a project with significant environmental impacts that will not be fully mitigated, it must adopt a "statement of overriding considerations" finding that, because of the project's overriding benefits, it is approving the project despite its environmental harm. (14 Cal.Code Regs. §15043; Pub. Res. Code §21081(B); Sierra Club v. Contra Costa County (1992) 10 Cal.App.4th 1212, 1222). A statement of overriding considerations expresses the "larger, more general reasons for approving the project, such as the need to create new jobs, provide housing, generate taxes and the like." (*Concerned Citizens of South Central LA v. Los Angeles Unif. Sch. Dist*. (1994) 24 Cal.App.4th 826, 847).

A statement of overriding considerations must be supported by substantial evidence in the record. (14 Cal. Code Regs. §15093(b); *Sierra Club v. Contra Costa Co*. (1992) 10 Cal.App.4th 1212, 1223)). The agency must make "a fully informed and publicly disclosed" decision that "specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project." (15 Cal. Code Regs. §15043(b)). As with all findings, the agency must present an explanation to supply the logical steps between the ultimate finding and the facts in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515).

Key among the findings that the lead agency must make is that:

> "Specific economic, legal, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report…[and that those] benefits of the project outweigh the significant effects on the environment."

(Pub. Res. Code §21081(a)(3), (b)). Thus, the City must make specific findings, supported by substantial evidence, concerning both the environmental impacts of the Project, and the economic benefits including "the provision of employment opportunities for highly trained workers" created. The EIR and its supporting documents fails to provide substantial evidence to support a statement of overriding considerations.

In short, the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be. A revised EIR, Fiscal Analysis and Statement of Overriding Considerations is required to provide this information.

CONCLUSION

In conclusion, SAFER believes that the FEIR fails as an informational document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, and fails to support its statement of overriding considerations with substantial evidence. In contrast, SAFER has presented substantial evidence of the EIR's various shortcomings and its corresponding failure to adequately disclose or mitigate the Project's likely significant adverse impacts. For these reasons, we respectfully request that the Planning Commission recommend that the City Council deny approval of the FEIR and instead direct City staff to prepare a revised FEIR in accordance with CEQA's public review provisions.

Sincerely,

Marjan Abubo
LOZEAU DRURY LLP

EXHIBIT A

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

August 11, 2023

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

Subject: Comments on the 4th and Hewitt Offices Project (SCH No. 2017091054)

Dear Mr. Abubo,

We have reviewed the Final Environmental Impact Report ("FEIR") for the 4th and Hewitt Offices Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to demolish the 7,030-square-foot ("SF") existing building and construct a 336,125-SF office building as well as a 39,751-SF parking lot on the 1.31-acre site.

Our review concludes that the FEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The FEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. III-14). [1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality

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

Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality Impact Analysis ("AQIA") as Appendix B to the FEIR, we found that several model inputs are not consistent with information disclosed in the FEIR and associated documents. As a result, the Project's construction-related and operational emissions may be underestimated. A revised EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	4.00	70.00
tblConstructionPhase	NumDays	200.00	547.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	NumDays	10.00	70.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 8, 9, 42, 43, 76, 77):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	12/5/2022	1/6/2023	5	25
2	Site Preparation	Site Preparation	12/31/2022	12/30/2022	5	0
3	Grading	Grading	1/9/2023	4/14/2023	5	70
4	Building Construction	Building Construction	4/17/2023	5/20/2025	5	547
5	Paving	Paving	2/5/2025	5/13/2025	5	70
6	Architectural Coating	Architectural Coating	2/5/2025	5/13/2025	5	70

As demonstrated in the excerpt above, the demolition phase is increased by 25%, from the default value of 20 to 25 days; the grading phase is increased by 1,650%, from the default value of 4 to 70 days; the building construction phase is increased by 174%, from the default value of 200 to 547 days; the paving phase is increased by 600%, from the default value of 10 to 70 days; and the architectural coating phase is increased by 600%, from the default value of 10 to 70 days. As previously mentioned, the CalEEMod

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

> "25 demo, 70 grading, 547 bldg, 70 pave and coat overlap bldg." (Appendix B, pp. 2, 36, 70).

Regarding the anticipated construction schedule, the FEIR states:

> "Construction of the Project is anticipated to begin in 2022 and would conclude in 2025, with an overall duration of 30 months" (p. III-7).

However, the revised construction schedule remains unsubstantiated. According to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [3]

As the FEIR only justifies the total construction duration of 30 months, the FEIR fails to provide substantial evidence to support the revised individual construction phase lengths. Until additional information is provided to justify the revised individual phase lengths, the model should have proportionally altered all phase lengths to match the proposed construction duration of 30 months.[4]

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[5]

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

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[2] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.
[4] See Attachment A for proportionately altered construction schedule.
[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

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

Incorrect Reduction to Acres of Grading Value

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes a reduction to the default acres of grading value (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	70.00	1.50

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is:

> "75,200 cy export." (Appendix B, pp. 3, 37, 71).

However, this change is incorrect. According to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres are based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[7]

As stated above, the default acres of grading values are based on the model's construction equipment and the length of the grading and site preparation phases. Here, the model changes the acres of the grading to reflect the acreage of the Project site. As the dimensions of the Project site have no impact on the acres of grading value, the revised value is unsubstantiated.

The unsubstantiated change presents an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[8] By including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

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[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/user's-guide, p. 9.
[8] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 9.

Unsubstantiated Changes to Solid Waste Generation Rates

Review of the CalEEMod output files demonstrates that "4th and Hewitt Project MXD-TDM" model includes several reductions to the default solid waste generation rates (see excerpt below) (Appendix B, pp. 4, 38, 72).

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	305.02	76.26
tblSolidWaste	SolidWasteGenerationRate	96.99	24.25

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is:

> "Required diversion" (Appendix FEIR-B, pp. 3, 37, 71).

Regarding the Project's solid waste generation rates, Appendix FEIR-B states:

> "Solid Waste Generation. The CalEEMod default solid waste generation inputs were adjusted to reflect a 75 percent reduction in solid waste disposal per the Assembly Bill 341 statewide goal for 2020" (Appendix B, pp. 19).

However, this justification remains insufficient. Even if the City achieves a 75% solid waste diversion rate does not guarantee the same diversion rate would be achieved locally at the Project site. Furthermore, the Exemption fails to provide substantial evidence or additional information regarding how the Project would achieve a 75% solid waste diversion rate. As such, we cannot verify the revised value.

This unsubstantiated reduction presents an issue, as CalEEMod uses the solid waste generation rate to calculate the Project's operation GHG emissions associated with the disposal of solid waste into landfills.[10] By including an unsubstantiated reduction to the default solid waste generation rate, the model may underestimate the Project's operational GHG emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the FEIR. In our updated model, we omitted the unsubstantiated reduction to the acres of grading value and the changes to solid waste generation rates; and included a proportionately adjusted construction schedule.[11]

Our updated analysis estimates that the Project's construction-related Reactive Organic Gases ("ROG") and Nitrogen Oxide ("NO_X") emissions both exceed the applicable SCAQMD thresholds of 75- and 100-

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[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 46.
[11] See Attachment B for revised air modeling.

pounds per day ("lbs/day"), respectively, as referenced by the FEIR (Appendix B, p. 10, Table 5) (see table below).

Maximum Daily Criteria Air Pollutant Emissions		
Construction Model	**Construction**	
	ROG	**NOX**
	(lbs/day)	
FEIR	48.6	44.2
SWAPE	126.1	238.0
% Increase	160%	439%
SCAQMD Threshold	**75**	**100**
Exceeds?	***Yes***	***Yes***

As demonstrated above, the Project's construction-related ROG and NO_X emissions, as estimated by SWAPE, increase by approximately 160% and 439%, respectively, and exceed the SCAQMD's applicable significance thresholds. Thus, our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the FEIR. As a result, a revised EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Diesel Particulate Matter Emissions Inadequately Evaluated

The FEIR conducts a health risk analysis ("HRA") evaluating impacts as a result of exposure to diesel particulate matter ("DPM") emissions from Project construction. Specifically, the FEIR estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project construction would be 3.1 in one million (Appendix C, p. 8, Table 4).

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	1.1E-07
0 to 2 years	2.8E-06
2 to 9 years	1.9E-07
Total	**3.1E-06**

Note: 3.1E-06 denotes an excess case of cancer of 0.31 in one hundred thousand (100,000) individuals exposed.

However, the FEIR fails to mention the TAC impacts or evaluate the health risks associated with Project operation. The EIR's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for six reasons.

First, the FEIR's construction-related HRA is incorrect, as it relies upon emissions estimates from a flawed air model. As previously discussed, upon review of the Project's CalEEMod output files, provided in Appendix B to the FEIR, we found that several model inputs are not consistent with information

disclosed in the FEIR. Therefore, the HRA may use an underestimated DPM concentration to calculate the health risk associated with Project construction. As such, the FEIR's construction-related HRA and the resulting cancer risk should not be relied upon to determine Project significance.

Second, the equation used to calculate the Project's construction-related cancer risk is incorrect as it fails to account for Age Sensitivity Factors ("ASF"). According to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the following ASF factors should be used when calculating cancer risks for different age groups:[12]

Age Group	Age Sensitivity Factor (unitless)
3rd Trimester	10
0<2 years	10
2<9 years	3
2<16 years	3
16<30 years	1
16-70 years	1

However, the HRA uses the following equation (see excerpt below) (Appendix C, p. 7):

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \text{ x } FAH$$

As demonstrated above, the equation used for the FEIR's construction-related HRA fails to include ASFs and is therefore incorrect. Instead, per OEHHA guidance, the FEIR should have used the following equation:[13]

A. Equation 8.2.4 A: $\boxed{RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH}$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor ($(mg/kg\text{-}day^{-1})$)
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[13] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

By failing to include ASF values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis correctly accounting for ASF values.

Third, the FEIR's construction-related HRA uses an underestimated Fraction of Time At Home ("FAH") value for the third trimester and infant receptors. Specifically, the HRA states:

> "The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations" (p. 7).

As demonstrated above, the construction-related HRA relies on an FAH value of 0.85 for third trimester and infant receptors. However, these FAH values are incorrect, as SCAQMD guidance clearly states:

> "For Tiers 1, 2, and 3 screening purposes, the FAH is assumed to be 1 for ages third trimester to 16. As a default, children are assumed to attend a daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area affected by the facility's emissions. People older than age 16 are assumed to spend only 73 percent of their time at home."[14]

As such, per SCAQMD guidance, the HRA should have used an FAH of 1 for the third trimester and infant receptors. Thus, by utilizing incorrect FAH values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis using correct FAH values.

Fourth, by failing to prepare a quantified operational HRA, the Project is inconsistent with CEQA's requirement to make "a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."[15] According to the FEIR, operation of the Project is anticipated to generate increased daily vehicle trips, which would generate additional exhaust emissions and expose nearby sensitive receptors to DPM emissions (p. III-16). However, the FEIR fails to evaluate the TAC emissions associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the Project is inconsistent with CEQA's requirement to correlate the Project-generated emissions with potential adverse impacts on human health.

Fifth, as previously discussed, OEHHA, the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types

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[14] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[15] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[16] Furthermore, according to OEHHA:

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[17]

OEHHA also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk at the maximally exposed individual resident ("MEIR").[18] While the FEIR fails to provide the expected lifetime of the proposed Project, we can reasonably assume that the Project would operate for at least 30 years, if not more. Thus, operation of the Project exceeds the 2-month and 6-month requirements set forth by OEHHA and should be evaluated for the entire 30-year residential exposure duration, as indicated by OEHHA guidance. These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation.

Sixth, while the FEIR includes an HRA evaluating the Project's health risk impacts to nearby, existing receptors as a result of Project construction, the FEIR fails to evaluate the combined lifetime cancer risk as a result of Project construction and operation together. According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[19] However, the FEIR's HRA fails to sum each age bin to evaluate the combined cancer risk over the course of the Project's total construction and operation. This is incorrect, and such an updated analysis should be prepared to quantify and sum the entirety of the Project's construction and operational health risks together to compare to the SCAQMD threshold of 10 in one million.

Failure to Identify a Significant Health Risk Impact

As previously discussed, the FEIR estimates that the maximum individual cancer risk posed to nearby, existing sensitive receptors as a result of Project construction would be 3.1 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (Appendix C, p. 8, Table 4) However, as previously discussed, the FEIR fails to incorporate ASF values in the calculation of the cancer risk. As such, the Project's cancer risk estimate is underestimated and should not be relied upon to determine Project significance.

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[16] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[17] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[18] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 2-4.
[19] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4

In order to accurately evaluate the FEIR's construction-related cancer risk, we used the following equation which includes ASFs:

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

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

As previously discussed, according to OEHHA guidance, the appropriate ASF value for third trimester and infant receptors is 10. When correctly accounting for ASFs, the FEIR's estimated cancer risk increases to 31 in one million (see table below).

Project Construction Cancer Risk

Source	Cancer Risk (in one million)
FEIR (without ASFs)	3.1
FEIR (with ASFs)	31.0
SCAQMD Threshold	**10**
Exceeds?	***Yes***

As demonstrated in the table above, the resulting cancer risk estimate exceeds the SCAQMD threshold of 10 in one million, thus indicating a potentially significant health risk impact not previously identified or addressed by the FEIR. As such, the FEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. According to CEQA Guidelines § 15096(g)(2):

> "When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

As a result, the proposed Project should not be approved until all feasible mitigation has been considered and incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." As such, the FEIR fails to identify and adequately mitigate the Project's significant health risk impact and a revised EIR should be prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The FEIR estimates that the Project would generate net annual GHG emissions of 6,258 metric tons of carbon dioxide equivalents per year (“MT CO_2e/year”) (p. IV.E-54, Table IV.E-8). As a result, the FEIR concludes:

> “As shown above, GHG emissions generated by the Project would be approximately 6,258 MTCO_2e per year, as compared to approximately 7,663 MTCO_2e per year that would result from the NAT scenario. As such, the Project would achieve an approximately 18 percent reduction in GHG emissions when compared to the NAT scenario” (p. IV.E-54 – IV.E-55)

Furthermore, regarding the No Action Taken (“NAT”) scenario, the FEIR states:

> “To demonstrate that the Project's characteristics and design features result in a reduction of GHG emissions, CalEEMod was also used to estimate the GHG emissions that would have been generated by the Project if not for its specific characteristics (the No Action Taken, or NAT, scenario). The NAT scenario is conveyed as a point of comparison to show that GHG emissions generated by the Project as proposed would be less than those that could be generated by a similar scale development in the absence of any reduction features or mitigation measures beyond those required by federal, State, and local regulations” (p. IV.E-39).

As demonstrated above, the FEIR claims that the Project would emit less than other similar developments in a NAT scenario. However, the FEIR’s analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

(1) The FEIR’s quantitative GHG analysis relies upon a flawed air model;
(2) The FEIR’s unsubstantiated air model indicates a potentially significant impact; and
(3) The FEIR fails to provide the CalEEMod model for the NAT scenario.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). However, the FEIR’s quantitative analysis is unsubstantiated. As previously discussed, when reviewing the Project’s CalEEMod models we found that several of the values inputted into the models are not consistent with information disclosed in the FEIR. As a result, the models may underestimate the Project’s emissions, and the FEIR’s quantitative analysis should not be relied upon to determine Project significance. A revised EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

2) Failure to Identify a Potentially Significant GHG Impact

In an effort to quantitatively evaluate the Project’s GHG emissions, we compared the Project’s GHG emissions, as estimated by the FEIR, to the SCAQMD 2035 service population efficiency target of 3.0 MT

CO_2e/SP/year, which was calculated by applying a 40% reduction to the 2020 targets.[20] When applying this threshold, the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). According to CAPCOA's *CEQA & Climate Change* report, a service population ("SP") is defined as "the sum of the number of residents and the number of jobs supported by the project."[21] The FEIR indicates that the Project would employ 1,270 people during operation (p. IV.A-35). As the Project does not include any residential land uses, we estimate a SP of 1,270 people.[22] When dividing the Project's net annual GHG emissions, as estimated by the FEIR, by a SP of 1,270 people, we find that the Project would emit approximately 4.9 MT CO_2e/SP/year (see table below).[23]

FEIR Greenhouse Gas Emissions	
Annual Emissions (MT CO_2e/year)	6,258
Service Population	1,270
Service Population Efficiency (MT CO_2e/SP/year)	4.9
SCAQMD 2035 Target	**3.0**
Exceeds?	***Yes***

As demonstrated above, the Project's service population efficiency value, as estimated by the FEIR's provided net annual GHG emission estimates and SP, exceeds the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, indicating a potentially significant impact not previously identified or addressed by the FEIR and associated documents. As a result, the FEIR's less-than-significant GHG impact conclusion should not be relied upon. A revised EIR should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels.

3) Failure to Provide the CalEEMod Model for NAT Scenario

As previously mentioned, the FEIR relies on a CalEEMod model of an NAT scenario to determine whether the Project's GHG emissions would have a significant impact (p. IV.E-39). Specifically, the FEIR estimates that the Project would have a 18% reduction of GHG emissions when compared to the NAT scenario. (p. IV.E-39 - 41).

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[20] "Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15." SCAQMD, September 2010, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, p. 2.

[21] "CEQA & Climate Change." California Air Pollution Control Officers Association (CAPCOA), January 2008, *available at:* https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf, p. 71-72.

[22] Calculated: 1,270 employees + 0 residents = 1,270 total SP.

[23] Calculated: (6,258 MT CO_2e/year) / (1,270 service population) = (4.9 MT CO_2e/SP/year).

However, this statement is unreliable as the FEIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. As such, we cannot confirm that any of the project specific characteristics would result in a reduction in GHG emissions. Additionally, to reduce the Project's GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality, health risk, and GHG impacts that should be mitigated further. In an effort to reduce the Project's emissions, we recommend consideration of SCAG's 2020 *RTP/SCS* PEIR's Air Quality Project Level Mitigation Measures ("PMM-AQ-1") and Greenhouse Gas Project Level Mitigation Measures ("PMM-GHG-1"), as described below: [24]

SCAG RTP/SCS 2020-2045
Air Quality Project Level Mitigation Measures – PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:
a) Minimize land disturbance.
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
c) Cover trucks when hauling dirt.
d) Stabilize the surface of dirt piles if not removed immediately.
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
f) Minimize unnecessary vehicular and machinery activities.
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.

[24] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." Southern California Association of Governments (SCAG), May 2020, *available at:* https://scag.ca.gov/peir.

j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.

k) Ensure that all construction equipment is properly tuned and maintained.

l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.

m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.

n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.

p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.

r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.

s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.

t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.

u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).

y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.

z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.

aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.

bb) The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:

- Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%
- Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
- Nonroad diesel engines on site shall be Tier 2 or higher.
- Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or

CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.

- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
    i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
    ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
    iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:
    i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
    ii. Any problems with the equipment or emission controls.
    iii. Certified copies of fuel deliveries for the time period that identify:
        1. Source of supply
        2. Quantity of fuel
        3. Quantity of fuel, including sulfur content (percent by weight)

Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1

In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.

c) Include off-site measures to mitigate a project's emissions.

d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:

i. Use energy and fuel-efficient vehicles and equipment;
ii. Deployment of zero- and/or near zero emission technologies;
iii. Use lighting systems that are energy efficient, such as LED technology;
iv. Use the minimum feasible amount of GHG-emitting construction materials;
v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;

vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy;
viii. Incorporate design measures to reduce water consumption;
ix. Use lighter-colored pavement where feasible;
x. Recycle construction debris to maximum extent feasible;
xi. Plant shade trees in or near construction projects where feasible; and
xii. Solicit bids that include concepts listed above.

e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:

i. Promote transit-active transportation coordinated strategies;
ii. Increase bicycle carrying capacity on transit and rail vehicles;
iii. Improve or increase access to transit;
iv. Increase access to common goods and services, such as groceries, schools, and day care;
v. Incorporate affordable housing into the project;
vi. Incorporate the neighborhood electric vehicle network;
vii. Orient the project toward transit, bicycle and pedestrian facilities;
viii. Improve pedestrian or bicycle networks, or transit service;
ix. Provide traffic calming measures;
x. Provide bicycle parking;
xi. Limit or eliminate park supply;
xii. Unbundle parking costs;
xiii. Provide parking cash-out programs;
xiv. Implement or provide access to commute reduction program;

f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;

g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and

h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:

i. Provide car-sharing, bike sharing, and ride-sharing programs;
ii. Provide transit passes;
iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
vi. Provide employee transportation coordinators at employment sites;
vii. Provide a guaranteed ride home service to users of non-auto modes.

i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;

j) Land use siting and design measures that reduce GHG emissions, including:

i. Developing on infill and brownfields sites;
ii. Building compact and mixed-use developments near transit;

iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
m) Encourage telecommuting and alternative work schedules, such as: i. Staggered starting times ii. Flexible schedules iii. Compressed work weeks
n) Implement commute trip reduction marketing, such as: i. New employee orientation of trip reduction and alternative mode options ii. Event promotions iii. Publications
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: i. Explicitly charging for parking for its employees; ii. Implementing above market rate pricing; iii. Validating parking only for invited guests; iv. Not providing employee parking and transportation allowances; and v. Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

A revised EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project’s significant emissions are reduced to the maximum extent possible.

Disclaimer

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

Sincerely,

M Hagemann

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

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	343	0.0583	890	52
Site Preparation	2	343	0.0058	890	5
Grading	4	343	0.0117	890	10
Construction	200	343	0.5831	890	519
Paving	10	343	0.0292	890	26
Architectural Coating	10	343	0.0292	890	26

	Total Default Construction Duration		Revised Construction Duration
Start Date	12/5/2022		12/5/2022
End Date	11/13/2023		5/13/2025
Total Days	343		890

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0609	1,199.0609	0.0940	0.1069	1,233.2671
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4510	714.4510	0.0536	0.0395	727.5740
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0609**	**1,199.0609**	**0.0940**	**0.1069**	**1,233.2671**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0606	1,199.0606	0.0940	0.1069	1,233.2667
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4508	714.4508	0.0536	0.0395	727.5737
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0606**	**1,199.0606**	**0.0940**	**0.1069**	**1,233.2667**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-5-2022	3-4-2023	1.8672	1.8672
2	3-5-2023	6-4-2023	0.6054	0.6054
3	6-5-2023	9-4-2023	0.6027	0.6027
4	9-5-2023	12-4-2023	2.2476	2.2476
5	12-5-2023	3-4-2024	0.6301	0.6301
6	3-5-2024	6-4-2024	0.5775	0.5775
7	6-5-2024	9-4-2024	0.5749	0.5749
8	9-5-2024	12-4-2024	0.5749	0.5749

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**12-5-2024**	**3-4-2025**	0.1894	0.1894
		Highest	2.2476	2.2476

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	

3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	
5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6309	230.6309	0.0392	0.0000	231.6100
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6309**	**230.6309**	**0.0392**	**0.0000**	**231.6100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6306	230.6306	0.0392	0.0000	231.6097
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6306**	**230.6306**	**0.0392**	**0.0000**	**231.6097**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9108	237.9108	0.0396	0.0000	238.9013
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9108**	**237.9108**	**0.0396**	**0.0000**	**238.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9105	237.9105	0.0396	0.0000	238.9010
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9105**	**237.9105**	**0.0396**	**0.0000**	**238.9010**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3042	15.3042	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3042**	**15.3042**	**4.8500e-003**	**0.0000**	**15.4254**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3041	15.3041	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3041**	**15.3041**	**4.8500e-003**	**0.0000**	**15.4254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Unmitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.712 2	1,832.712 2	0.0874	0.0106	1,838.054 2
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.712 2	1,832.712 2	0.0874	0.0106	1,838.054 2
NaturalGas Mitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899
NaturalGas Unmitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e+006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e+006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e+006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e+006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Unmitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	70.6564	0.5219	0.0126	87.4661
Unmitigated	70.6564	0.5219	0.0126	87.4661

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.6044	4.8227	0.0000	202.1714
Unmitigated	81.6044	4.8227	0.0000	202.1714

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Total	**0.0106**	**0.0473**	**0.0270**	**5.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5500e-003**	**1.5500e-003**	**0.0000**	**4.9047**	**4.9047**	**6.9000e-004**	**0.0000**	**4.9219**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.752 4	2,838.752 4	0.6161	0.0637	2,873.138 7
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7 996	103,829.7 996	6.9301	15.0766	108,495.8 748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.746 2	6,092.746 2	0.4503	0.3283	6,201.838 1
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.989 3	5,984.989 3	0.4393	0.3203	6,091.428 8
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7 996**	**103,829.7 996**	**6.9301**	**15.0766**	**108,495.8 748**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.416 8	2,323.416 8	0.5921		2,338.219 1
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.416 8**	**2,323.416 8**	**0.5921**		**2,338.219 1**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.7965	1,982.7965	0.0665	0.2851	2,069.4080
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.1658	2,200.1658	0.0555	0.0508	2,216.6836
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.9623**	**4,182.9623**	**0.1219**	**0.3358**	**4,286.0916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.0186	1,953.0186	0.0667	0.2811	2,038.4497
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.8062	2,137.8062	0.0502	0.0472	2,153.1322
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.8248**	**4,090.8248**	**0.1169**	**0.3283**	**4,191.5819**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.018 6	1,953.018 6	0.0667	0.2811	2,038.449 7
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.806 2	2,137.806 2	0.0502	0.0472	2,153.132 2
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.824 8**	**4,090.824 8**	**0.1169**	**0.3283**	**4,191.581 9**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.8566	1,917.8566	0.0672	0.2762	2,001.8497
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.9803	2,064.9803	0.0453	0.0441	2,079.2543
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.8368**	**3,982.8368**	**0.1124**	**0.3203**	**4,081.1041**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Unmitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.976 1	1,694.976 1	0.0325	0.0311	1,705.048 5
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.976 1	1,694.976 1	0.0325	0.0311	1,705.048 5

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.732 9	2,831.732 9	0.6161	0.0640	2,866.190 8
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6 394	103,775.6 394	6.9225	15.0933	108,446.5 110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.600 5	5,983.600 5	0.4507	0.3323	6,093.877 4
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.915 8	5,879.915 8	0.4398	0.3240	5,987.467 3
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6 394**	**103,775.6 394**	**6.9225**	**15.0933**	**108,446.5 110**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6004	5,983.6004	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.494 2	2,259.494 2	0.7308		2,277.763 3
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.494 2**	**2,259.494 2**	**0.7308**		**2,277.763 3**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.3819	1,956.3819	0.0664	0.2818	2,042.0258
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.2971	2,025.2971	0.0509	0.0504	2,041.5953
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.6790**	**3,981.6790**	**0.1173**	**0.3323**	**4,083.6211**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.218 6	1,921.218 6	0.0669	0.2769	2,005.418 7
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.544 8	1,956.544 8	0.0460	0.0471	1,971.723 9
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.763 4**	**3,877.763 4**	**0.1129**	**0.3240**	**3,977.142 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Unmitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

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

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

Professional Experience:

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

Positions Matt has held include:

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

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

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

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

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

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

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

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

Policy:

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

Activities included the following:

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

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

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

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

Professional Experience

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

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

Professional History:

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

Publications:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Teaching Experience:

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

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

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

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

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

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

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

Academic Grants Awarded:

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

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

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

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

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

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

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

Deposition and/or Trial Testimony:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EXHIBIT B

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Courtney Shum, City Planner
221 North Figueroa Street, Room 1350
Los Angeles, California, 90012 3 August 2023

RE: 4th & Hewitt Project

Dear Ms. Shum,

I write to comment on potential impacts to biological resources that could result from the proposed project at site at 900, 902, 904, 906-910, and 926 East 4th Street; 406, 408, and 414 Colyton Street; 405, 407, 411, 417, and 423 South Hewitt Street (ENV-2017-470-EIR). I understand the project would include 343,925 square feet of office space with some commercial space in an 18-story, 292-foot-tall building on 1.31-acres. I am concerned that the project would cause significant impacts to biological resources that have not been analyzed in the DEIR. In particular, the DEIR entirely neglects to consider the aerosphere as avian habitat.

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

EXISTING ENVIRNMENTAL 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, neither of these needed steps were taken.

Environmental Setting informed by Field Surveys

No surveys for wildlife have been completed at the project site. The lack of surveys leaves the City of Los Angeles blind to any potential project impacts to biological resources, because without a survey there is no sound basis for characterizing the existing environmental setting. Of particular concern is that portion of the aerosphere overlying the footprint of the proposed building, and which species of birds and how many birds might fly through that airspace. Going forward with the project without completing appropriate wildlife surveys would be indefensible.

Environmental Setting informed by Desktop Review

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

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

In my assessment based on database review, 112 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 1). Of these 112 species, 92 are birds that are capable of flying within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 92 special-status species of birds, 31 (34%) have been documented within 1.5 miles of the site ('Very close'), 29 (32%) within 1.5 and 4 miles ('Nearby'), and another 32 (35%) within 4 to 30 miles ('In region'). Two-thirds (65%) of the species in Table 1 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting many special-status species of birds based on proximity of recorded occurrences.

Table 1. *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.*

Common name	***Species name***	**Status[1]**	**Data base records**
Monarch	*Danaus plexippus*	FC	Very close
Brant	*Branta bernicla*	SSC2	In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL	Nearby
Redhead	*Aythya americana*	SSC2	Nearby
Western grebe	*Aechmophorus occidentalis*	BCC	Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2, BCC	Very close
Costa's hummingbird	*Calypte costae*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	Very close
Mountain plover	*Charadrius montanus*	SSC2, BCC	In region
Snowy plover	*Charadrius nivosus*	BCC	In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	In region
Whimbrel[2]	*Numenius phaeopus*	BCC	Nearby
Long-billed curlew	*Numenius americanus*	WL	In region
Marbled godwit	*Limosa fedoa*	BCC	In region
Red knot (Pacific)	*Calidris canutus*	BCC	In region
Short-billed dowitcher	*Limnodromus griseus*	BCC	In region
Willet	*Tringa semipalmata*	BCC	Very close
American avocet[2]	*Recurvirostra americana*	BCC	Very close
Laughing gull	*Leucophaeus atricilla*	WL	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	Very close
California least tern	*Sternula antillarum browni*	FE, CE, FP	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3	In region
Black tern	*Chlidonias niger*	SSC2, BCC	In region
Elegant tern	*Thalasseus elegans*	BCC, WL	In region
Black skimmer	*Rynchops niger*	BCC, SSC3	In region
Common loon	*Gavia immer*	SSC	In region
Brandt's cormorant	*Urile penicillatus*	BCC	In region
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC	Very close

Common name	*Species name*	Status[1]	Data base records
California brown pelican	*Pelecanus occidentalis californicus*	FP	In region
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, CFP	Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	Very close
Ferruginous hawk	*Buteo regalis*	WL, BOP	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP	In region
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Barn owl	*Tyto alba*	BOP	Very close
Western screech-owl	*Megascops kennicotti*	BOP	Nearby
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Lewis's woodpecker	*Melanerpes lewis*	BCC	Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Very close
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	CFP, BOP	Very close
Prairie falcon	*Falco mexicanus*	WL, BOP	In region
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Nearby
Willow flycatcher	*Empidonax trailii*	CE	Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Nearby
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby

Common name	***Species name***	**Status[1]**	**Data base records**
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Nearby
Cassin's finch	*Haemorhous cassinii*	BCC	In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	In region
Black-chinned sparrow	*Spizella atrogularis*	BCC	In region
Gray-headed junco	*Junco hyemalis caniceps*	WL	Nearby
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Nearby
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Hepatic tanager	*Piranga flava*	WL	In region
Summer tanager	*Piranga rubra*	SSC1	Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In region
Canyon bat	*Parastrellus hesperus*	WBWG:L	In region
Big brown bat	*Episticus fuscus*	WBWG:L	In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	Nearby
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	Nearby
Hoary bat	*Lasiurus cinereus*	WBWG:M	Nearby
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Western small-footed myotis	*Myotis cililabrum*	WBWG:M	In region
Miller's myotis	*Myotis evotis*	WBWG:M	In region
Little brown myotis	*Myotis lucifugus*	WBWG:M	In range
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
California myotis	*Myotis californicus*	WBWG:L	In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	Very close
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	Very close
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In region

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

Because the project would consist of a tall building largely covered in glass, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,360 birds of 113 species have been recorded flying into the Los Angeles area from 16 countries of the Americas, from as far away as Argentina and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ4ooBhFA4OAVzTCOgFUBlWnAQzCgDMAFgBoABgCsAiQHYCOClACoARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, 43,900 birds flew across portions of Los Angeles County during the night of 2 August 2023, the night before I completed my comments. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area. Many of these birds likely follow along the Los Angeles River, which passes near the site of the proposed project. One of the likely flight paths would be right across that portion of the aerosphere that overlies the footprint of the proposed building (Figure 1).

Bird flights average 35,200 per night during the nights of peak migration (https://dashboard.birdcast.info/region/US-CA-037). Most of these flights range in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Los Angeles, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the height of the proposed building. Assuming this percentage also applies to birds flying across the aerosphere overlying Los Angeles, then at peak migration documented by BirdCast, one can expect 4,541 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in Los Angeles comes in the forms of buildings and trees. In summary, the basis exists for concern that a large

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

number of birds might routinely fly through the aerosphere that would be displaced by the proposed 292-foot-tall building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

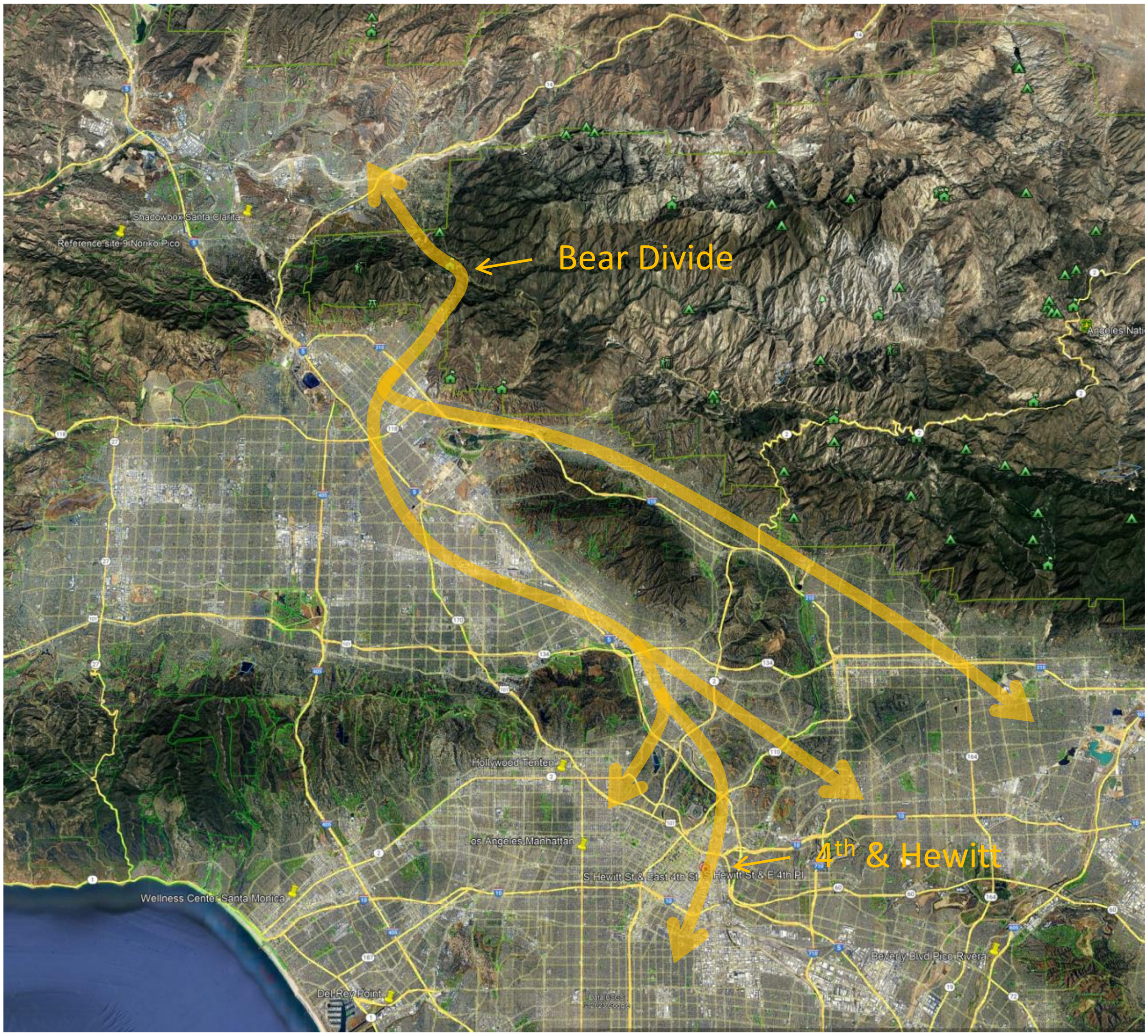

Figure 1. *Likely flight paths of birds passing through Bear Divide, which has been found to serve as a major pathway of bird migration through Los Angeles County (Terrill et al. 2021). The terrain in the map is exaggerated for improved visibility of how birds are likely channeled by the landscape.*

The DEIR should be revised to include an analysis of potential project impacts to birds and how to best mitigate those impacts. Adequate surveys and desktop review is needed to characterize the existing environmental setting in support of an EIR. And the environmental setting of principal concern in this case – the aerosphere – should be carefully examined for migratory bird traffic.

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how the proposed project would affect species of birds. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting, which in the case of this project would be the aerosphere of the project area. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and three important types of potential project impact have not been analyzed.

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. No analysis has been completed to address this concern. Ample evidence is available that the site is important to wildlife movement in the region (see above comments on flight activity). Considering the level of nocturnal flight activity in Los Angeles, the project's impact to wildlife movement would be significant, and as the project is currently proposed, this impact would be unmitigated.

BIRD-WINDOW COLLISIONS

The project would add an 18-story, 292-foot-tall building with expansive windows on its facade. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

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

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also,

the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

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

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

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) 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 at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142

bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 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 m^2 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 DEIR does not disclose the extent of glass windows and glass railings on the proposed new building. I therefore measured the extents of windows (though not of the railings) depicted in the building schematics within the DEIR, but I omitted the windows on the 2nd through 5th floors which consisted of a fine grain of small panels separated by framing. Based on my measurements, I estimate the project would include 10,425 m^2 of large-paneled glass in the project building's facades. Applying the mean fatality rate (above) to 10,425 m^2 of glass, I predict annual bird deaths of 762 (95% CI: 452–1,072).

The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised 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. The

EIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 14–17), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 14. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 15. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 16 and 17. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.*)

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

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-

legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts an annual VMT of 7,222,925. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the DEIR's predicted annual VMT would predict 3,958 vertebrate wildlife fatalities per year. However, fewer animals would be killed in the urbanized part of Los Angeles that surrounds the project site as compared to the study area of Mendelsohn et al. (2009), so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would range between 5% to 10% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 198 to 396, which would be a significant, unmitigated impact to wildlife caused by the project.

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

CUMULATIVE IMPACTS

The project would insert an 18-story building into the airspace that has been used by volant wildlife for many thousands of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other mid-rise and high-rise buildings in the area. The project would also cause a predicted 762 (95% CI: 452–1,072) bird-window collision fatalities per year, and would generate a predicted additional 21,481,388 annual VMT, which would contribute 198 to 396 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Los Angeles. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The DEIR proposes no mitigation for potential project impacts to wildlife, including for impacts to flying birds. Below are recommendations for mitigation to be added to a revised DEIR.

RECOMMENDED MEASURES

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

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

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

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

The City of Los Angeles should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

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

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

Thank you for your consideration,

Shawn Smallwood, Ph.D.

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EXHIBIT C

IEE INDOOR ENVIRONMENTAL ENGINEERING IEE
1448 Pine Street, Suite 103 San Francisco, California 94109
Telephone: (415) 567-7700
E-mail: offermann@IEE-SF.com
http://www.iee-sf.com

Date: August 15, 2023

To: Marjan Kris Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 4th and Hewitt Project, Los Angeles, CA
(IEE File Reference: P-4736)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

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

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

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

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

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to 4th and Hewitt Project, Los Angeles, CA, the buildings consist of commercial office spaces.

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

Assuming that the office building employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day is 161 μg/day.

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

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

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

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V")

identifies an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

<u>Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment</u>

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

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

NOTE: As a result of the high-performance building rating systems and building codes

(California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and

reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

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

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

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

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots

Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to

insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is close to roads with moderate to high traffic (e.g., East 4th Street, East 4th Place, East 3rd Street, East 5th Street, South Hewitt Street, Colyton Street, etc.) and in Table IV-I-25 reports that the future plus Project ambient traffic noise levels will range from 55.1 to 71.7 dBA CNEL.

Thus, the Project is located in a sound impacted area and the building envelope and windows require 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.

<u>$PM_{2.5}$ Outdoor Concentrations Impact</u>. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 791 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct

testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS AND THE CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California"*. In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality*" when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

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

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

CITY OF LOS ANGELES

CALIFORNIA

KAREN BASS
MAYOR

Exhibit B
VTT-74745 LOD
VTT-74745-1A

September 1, 2023

Dilip K. Bhavani (A)
LIG-900-926 E. 4th St. and 405-411 S. Hewitt St., LLC
6315 Bandini Blvd.
Los Angeles, CA 90040

Edgar Khalatian (R)
Mayer Brown
333 S. Grand Ave. 47th Floor
Los Angeles, CA 90071

Douglas R. Howard, Psomas (E)
555 S. Flower St., Suite 4300
Los Angeles, CA 90017

RE: Vesting Tentative Tract Map No.: 74745
Related Case Nos. CPC-2017-469-GPA-VZC-HD-MCUP-SPR
Address: 900-926 E. 4th St., 406-414 S. Colyton St., and 405-423 S. Hewitt St., Los Angeles, CA 90013
Community Plan: Central City North
Zone: M3-1-RIO
Council District: 14 – de Leon
CEQA No.: ENV-2017-470-EIR
(SCH No. 2017091054)

Last Day to File an Appeal: September 11, 2023

Pursuant to Sections 21082.1(c) and 21081.6 of the Public Resources Code, the Advisory Agency has reviewed and considered the information contained in the Environmental Impact Report (EIR) prepared for this Project, which includes the Draft EIR, Case No. ENV-2017-470-EIR (SCH No. 2017091054), dated May 26, 2022, and the Final EIR dated July 11, 2023 (4th and Hewitt Project EIR), as well as the whole administrative record; and

CERTIFIED the following:

1. The 4th and Hewitt Project EIR has been completed in compliance with the California Environmental Quality Act (CEQA);
2. The 4th and Hewitt Project EIR was presented to the Advisory Agency as a decision-making body of the lead agency; and
3. The 4th and Hewitt Project EIR reflects the independent judgement and analysis of the lead agency.

ADOPTED the following:

1. The related and prepared 4th and Hewitt Project EIR Environmental Findings;
2. The Statement of Overriding Considerations; and
3. The Mitigation Monitoring Program prepared for the 4th and Hewitt Project EIR.

Pursuant to LAMC Section 17.15, the Advisory Agency **APPROVED:**

Vesting Tentative Tract Map No. 74745, (stamped map, dated July 11, 2023) for the merger and re-subdivision of a 1.3-acre site into **one ground master lot and 12 airspace lots**, a Haul Route for the export of up to 84,300 cubic yards of soil.

The subdivider is hereby advised that the LAMC may not permit this maximum approved density. Therefore, verification should be obtained from the Department of Building and Safety, which will legally interpret the Zoning code as it applies to this particular property. For an appointment with the Development Services Center call (213) 482-7077, (818) 374-5050, or (310) 231-2901.

The Advisory Agency's consideration is subject to the following conditions:

The final map must record within 36 months of this approval, unless a time extension is granted before the end of such period.

NOTE on clearing conditions: When two or more agencies must clear a condition, subdivider should follow the sequence indicated in the condition. For the benefit of the applicant, subdivider shall maintain record of all conditions cleared, including all material supporting clearances and be prepared to present copies of the clearances to each reviewing agency as may be required by its staff at the time of its review.

BUREAU OF ENGINEERING - SPECIFIC CONDITIONS

(Additional BOE Improvement Conditions are listed in "Standard Condition" section)

1. That the existing public street cut-corner (except areas to be dedicated) at the intersection of 4th Street and Hewitt Street adjoining the tract and as shown on the tentative tract map be permitted to be merged with the remainder of the tract map pursuant to Section 66499.20.2 of the State Government Code, and in addition, the following conditions be executed by the Applicant and administered by the City Engineer:

   a. That consents to the cut-corner being merged and waivers of any damages that may accrue as a result of such mergers be obtained from all property owners who might have certain rights in the area being merged.
   b. That satisfactory arrangements be made with all public utility agencies maintaining existing facilities within the area being merged.

2. That a 6-foot-wide strip of land be dedicated along 4th Street adjoining the tract except where existing structures to remain to complete a 36-foot-wide half public right–of-way in accordance with Avenue III of LA Mobility Plan including a 15-foot by 15-foot property line cut corner at the intersection with Hewitt Street. Above cut corner shall be limited to the height of 20-feet measured from finished sidewalk surface. A certified Survey Plan shall be submitted showing the location of the existing structure to remain for the final map check.

   OR

   That a 3-foot-wide strip of land be provided as a sidewalk easement, along 4th Street adjoining the tract except where existing structures to remain, to complete a 30-foot-wide half public right–of-way, in substantial conformance with the 4th and Hewitt Street Living

Streets improvements diagram, Exhibit C, as approved by the Advisory Agency, including a 15-foot by 15-foot property line cut corner at the intersection with Hewitt Street. The upper limit to the above cut corner shall be limited to the height of 20-feet measured from finished sidewalk surface. A certified Survey Plan shall be submitted showing the location of the existing structure to remain for the final map check.

3. That 2-foot to 4-foot variable width strip of land be dedicated along the Hewitt Street to complete a 34-foot-wide half public right–of-way in accordance with Industrial Collector Street Standards of LA Mobility Plan.

   OR

   That the existing partial 2-foot-wide sidewalk easement be merged into the tract, and that no dedication be required along Hewitt Street adjoining the tract to maintain the existing 30-foot-wide half right-of-way, in substantial conformance with the 4th and Hewitt Street Living Streets improvements diagram, Exhibit C, as approved by the Advisory Agency.

4. That proposed merger along Hewitt Street not be approved and not be shown on the final map.

5. That a 4-foot-wide strip of land be dedicated along Colyton Street adjoining the tract to complete a 34-foot-wide half public right-of-way in accordance with Industrial Collector Street Standards of LA Mobility Plan. In addition, a 15-foot by 15-foot public street cut corner be dedicated at the intersection with 4th Street.

   OR

   That no dedication be required along Colyton Street adjoining the tract to maintain the existing 30-foot-wide half right-of-way, in substantial conformance with the 4th and Hewitt Street Living Streets improvements diagram, Exhibit C, as approved by the Advisory Agency. In addition, a minimum 15-foot by 15-foot building line cut corners be provided at the intersection with 4th Street, as approved by the Advisory Agency.

6. That a set of drawings for airspace lots be submitted to the City Engineer showing the followings:
   a. Plan view at different elevations.
   b. Isometric views.
   c. Elevation views.
   d. Section cuts at all locations where air space lot boundaries change.

7. That no portion of the proposed development shall encroach within the public street rights-of-way.

8. That any surcharge fee in conjunction with the cut corner merger request be paid.

9. That the subdivider makes a request to the General District Office of the Bureau of Engineering to determine the capacity of the existing sewer in the area.

10. **<u>Note to B-Permit Section:</u>** The City Council (Council File No.14-0499-S3) passed a motion instructing that private development off-site conditions be coordinated with the Active Transportation Program Cycle 3 (ATP3). In the event that the dedications and improvements

outlined herein are different from the ATP3 requirements then provide the dedications and improvements as required by the ATP3. (This condition shall be cleared by Central District engineering B-Permit Section).

Any questions regarding this report should be directed to Quyen Phan of the Permit Case Management Division located at 201 North Figueroa Street, Suite 290, or by calling (213) 808-8604.

DEPARTMENT OF BUILDING AND SAFETY, GRADING DIVISION

11. The geology/soils reports are not required prior to planning approval of the Tract Map No. 74745 as the property is located outside of a City of Los Angeles Hillside Area; is exempt or located outside of a State of California liquefaction, earthquake induced landslide, or fault-rupture hazard zone; and does not require any grading or construction of an engineered retaining structure to remove potential geologic hazards.

12. Per LAMC Section 17.56, each approved Tract Map recorded with the County Recorder shall contain the following statement: “The approval of this Tract Map shall not be construed as having been based upon geological investigation such as will authorize the issuance of building permits on the subject property. Such permits will be issued only at such time as the Department of Building and Safety has received such topographic maps and geological reports as it deems necessary to justify the issuance of such building permits.”

13. The Applicant shall comply with any requirements with the Department of Building and Safety, Grading Division for recordation of the final map and issuance of any permit.

DEPARTMENT OF BUILDING AND SAFETY, ZONING DIVISION

14. Prior to recordation of the final map, the Department of Building and Safety, Zoning Division shall certify that no Building or Zoning Code violations exist on the subject site. In addition, the following items shall be satisfied:

    a. Obtain permits for the demolition or removal of all existing structures on the site. Accessory structures and uses are not permitted to remain on lots without a main structure or use. Provide copies of the demolition permits and signed inspection cards to show completion of the demolition work.

    b. Revise the map to show the horizontal boundary of the Master Lot 1.

    c. Provide a copy of CPC cases CPC-2017-469-GPA-VZC-HD-CU-MCUP-SPR and CPC-2017-432-CPU. Show compliance with all the conditions/requirements of the CPC cases as applicable.

    d. Provide a copy of affidavit AF-91-320099-LT. Show compliance with all the conditions/requirements of the above affidavit as applicable. Termination of above affidavit may be required after the Map has been recorded. Obtain approval from the Department, on the termination form, prior to recording.

    e. Obtain Zone Change approval from the Department of City Planning and City Council. Comply with Zone Change requirements.

f. Zone Change must be recorded prior to obtaining Zoning clearance.

g. Show all street dedication(s) as required by Bureau of Engineering and provide net lot area after all dedication. “Area” requirements shall be re-checked as per net lot area after street dedication. Applicable front and side yard requirements shall be required to comply with current code as measured from new property lines after dedication(s).

h. Record a Covenant and Agreement to treat the buildings and structures located in an Air Space Subdivision as if they were within a single lot.

Note: The proposed building plans have not been checked for and shall comply with Building and Zoning Code requirements. With the exception of revised health or safety standards, the subdivider shall have a vested right to proceed with the proposed development in substantial compliance with the ordinances, policies, and standards in effect at the time the subdivision application was deemed complete. Plan check will be required before any construction, occupancy or change of use.

If the proposed development does not comply with the current Zoning Code, all zoning violations shall be indicated on the Map.

The submitted Map may not comply with the number of guest parking spaces required by the Advisory Agency.

An appointment is required for the issuance of a clearance letter from the Department of Building and Safety. The Applicant is asked to contact Laura Duong at (213) 482-0434 to schedule an appointment.

DEPARTMENT OF TRANSPORTATION

15. A minimum of 60-foot and 40-foot reservoir space(s) be provided between any ingress security gate(s) and the property line when driveway is serving more than 300 and 100 parking spaces respectively. A minimum of 20-foot reservoir space(s) be provided between any ingress security gate(s) and the property line when driveway is serving less than 100 parking spaces or to the satisfaction of the Department of Transportation.

16. Parking stalls shall be designed so that a vehicle is not required to back into or out of any public street or sidewalk. LAMC 12.21 A.

17. A parking area and driveway plan be submitted to the Citywide Planning Coordination Section of the Department of Transportation for approval prior to submittal of building permit plans for plan check by the Department of Building and Safety. Transportation approvals are conducted at 201 N. Figueroa St., Room 550. For an appointment, call (213) 482-7024.

Please contact this section at (213) 482-7024 for any questions regarding the above.

FIRE DEPARTMENT

18. Submit plot plans for Fire Department approval and review prior to recordation of Tract Map Action.

19. Access for Fire Department apparatus and personnel to and into all structures shall be

required.

20. One or more Knox Boxes will be required to be installed for LAFD access to project, location and number to be determined by LAFD Field inspector. (Refer to FPB Req # 75).

    Note: The Applicant is further advised that all subsequent contact regarding these conditions must be with the Hydrant and Access Unit. This would include clarification, verification of condition compliance and plans or building permit applications, etc., and shall be accomplished BY APPOINTMENT ONLY, in order to assure that you receive service with a minimum amount of waiting please call (213) 482-6509. You should advise any consultant representing you of this requirement as well.

DEPARTMENT OF WATER AND POWER

21. Satisfactory arrangements shall be made with the Los Angeles Department of Water and Power (LADWP) for compliance with LADWP's Water System Rules and requirements. Upon compliance with these conditions and requirements, LADWP's Water Services Organization will forward the necessary clearances to the Bureau of Engineering. (This condition shall be deemed cleared at the time the City Engineer clears Condition No. S-1(c).)

BUREAU OF STREET LIGHTING

22. Prior to the recordation of the final map or issuance of the Certificate of Occupancy (C of O), street lighting improvement plans shall be submitted for review and the owner shall provide a good faith effort via a ballot process for the formation or annexation of the property within the boundary of the development into a Street Lighting Maintenance Assessment District. See Condition S-3(c) for Street Lighting Improvement conditions.

BUREAU OF STREET SERVICES

Required Permit Fee and Bond

23. See Department of City Planning Condition No. 33 for the approved haul route.

24. Haul Route Required permit fee and bond. Permit fee must be paid before the Department of Building and Safety will issue a Grading Permit.

    a. Under the provisions of Section 62.201 of the Los Angeles Municipal Code, the following permit fee shall be required:

        i. The minimum permit fee of $150.00 is required for the (import/export).

    b. The required permit fee shall be paid at the Street Services Investigation and Enforcement Division office, 1149 South Broadway, Suite 350, Los Angeles, CA 90015, telephone (213) 847-6000.

    c. Under the provisions of Section 62.202 of the Los Angeles Municipal Code, a cash bond or surety bond in the amount of $50,000.00 shall be required from the property owner to cover any road damage and/or street cleaning costs resulting from the hauling activity.

    d. Forms for the bond will be issued by Bond Control, Bureau of Engineering Valley District

Office, 6262 Van Nuys Boulevard, Suite 251, Van Nuys, CA 91401, telephone (818) 374-5090.

25. Special Conditions.

An authorized Public Officer may make additions to, or modifications of, the following conditions if necessary to protect the health, safety, and welfare of the general public.

a. The hauling operations are restricted to the hours between 9 AM and 3 PM on Mondays through Fridays, and Saturdays from 8 AM to 4 PM. No hauling shall be performed on Sundays or holidays.

b. The vehicles used for hauling shall be Bottom Dump trucks.

c. All trucks are to be cleaned of loose earth at the export site to prevent spilling. The contactor shall remove any material spilled onto the public street.

d. All trucks are to be watered at the export site to prevent excessive blowing of dirt.

e. The Applicant shall comply with the State of California, Department of Transportation policy regarding movement of reducible loads.

f. Total amount of dirt to be hauled shall not exceed 84,300 cubic yards.

g. “Truck Crossing” warning signs shall be placed 300 feet in advance of the exit in each direction.

h. Flag persons shall be required at the job site to assist the trucks in and out of the project area. Flag persons and warning signs shall be in compliance with Part II of the latest Edition of “Work Area Traffic Control Handbook.”

i. The permittee shall comply with all regulations set forth by the State of California Department of Motor Vehicles pertaining to the hauling of earth.

j. The City of Los Angeles, Department of Transportation, telephone (213) 485-2298, shall be notified 72 hours prior to beginning operations in order to have temporary “no Parking” signs posted along streets along the haul route.

k. A copy of the approval letter from the City, the approved haul route and the approved grading plans shall be available on the job site at all times.

l. Any changes to the prescribed routes, staging and/or hours of operation must be approved by the concerned governmental agencies. Contact Street Services Investigation and Enforcement Division at (213) 847-6000 prior to effecting any change.

m. The permittee shall notify the Street Services Investigation and Enforcement Division at (213) 847-6000 at least 72 hours prior to the beginning of hauling operations and shall notify the division immediately upon completion of hauling operations.

n. The application shall expire 18 months after the date of the Board of Building and

Safety Commission and/or the Department of City Planning approval. The permit fee shall be paid to the Street Services Investigation and Enforcement Division prior to the commencement of hauling operations.

BUREAU OF SANITATION

26. Wastewater Collection Systems Division of the Bureau of Sanitation has inspected the sewer/storm drain lines serving the subject tract and found no potential problems to their structure or potential maintenance problem, as stated in the memo dated December 4, 2017. Upon compliance with its conditions and requirements, the Bureau of Sanitation, Wastewater Collection Systems Division will forward the necessary clearances to the Bureau of Engineering. (This condition shall be deemed cleared at the time the City Engineer clears Condition No. S-1. (d).)

    Note: This Approval is for the Tract Map only and represents the office of LA Sanitation/CWCDs. The Applicant may be required to obtain other necessary Clearances/Permits from LA Sanitation and appropriate District office of Bureau of Engineering.

If you have any questions, please contact Rafael Yanez at (323) 342-1563.

DEPARTMENT OF RECREATION AND PARKS

27. That the Tract Map No. VTT-74745 has no anticipated recreation and park impacts therefore RAP has no recommendations regarding this Project stated in an Inter-Departmental letter dated December 11, 2017.

URBAN FORESTRY DIVISION

28. Native Protected Trees

    a. Project shall preserve all healthy mature street trees whenever possible. All feasible alternatives in project design should be considered and implemented to retain healthy mature street trees. A permit is required for the removal of any street tree and shall be replaced 2:1 as approved by the Board of Public Works and Urban Forestry Division.

    b. Plant street trees at all feasible planting locations within dedicated streets as directed and required by Bureau of Street Services, Urban Forestry Division. All tree plantings shall be installed to current tree planting standards when the City has previously been paid for tree plantings. The sub-divider or contractor shall notify the Urban Forestry Division at (213) 847-3077 upon completion of construction for tree planting direction and instructions.

    Note: Removal of street trees requires approval from the Board of Public Works. All projects must have environmental (CEQA) documents that appropriately address any removal and replacement of street trees. Contact Urban Forestry Division at (213) 847-3077 for tree removal permit information.

INFORMATION TECHNOLOGY AGENCY

29. To assure that cable television facilities will be installed in the same manner as other required improvements, please email cabletv.ita@lacity.org that provides an automated response with the instructions on how to obtain the Cable TV clearance. The automated response also provides the email address of three people in case the Applicant/owner has any additional questions.

DEPARTMENT OF CITY PLANNING-SITE SPECIFIC CONDITIONS

30. <u>Prior to the issuance of a grading permit</u>, the Applicant shall submit a tree report and landscape plan prepared by an LAMC-designated tree expert as designated by LAMC Ordinance No. 186,873, for approval by the City Planning Department and the Urban Forestry Division of the Bureau of Street Services. All trees in the public right-of -way shall be provided per the current Urban Forestry standards.

31. <u>Prior to the issuance of a building permit or the recordation of the final map</u>, the subdivider shall prepare and execute a Covenant and Agreement (Planning Department General Form CP-6770) in a manner satisfactory to the Planning Department, binding the subdivider and all successors to the following:

    a. Limit the proposed development to one (1) ground lot with 12 airspace lots;

    b. That a solar access report shall be submitted to the satisfaction of the Advisory Agency prior to obtaining a grading permit; and

    c. That the subdivider considers the use of natural gas and/or solar energy and consults with the Department of Water and Power and Southern California Gas Company regarding feasible energy conservation measures.

32. Prior to the issuance of the building permit or the recordation of the final map, a copy of CPC-2017-469-GPA-VZC-HD-MCUP-SPR shall be submitted to the satisfaction of the Advisory Agency. In the event CPC-2017-469-GPA-VZC-HD-MCUP-SPR is not approved, the subdivider shall submit a tract modification.

33. Haul Route Conditions.

    a. The approved haul routes are as follows:

       Loaded Trucks: Exit jobsite on S Hewitt St (Northbound); Left turn on E 4th St (Westbound); Right turn on Alameda St (Northbound); Right turn on Commercial St (Eastbound); Left turn onto US-101 on-ramp to the dumpsite.
       Empty Trucks: US-101; Exit towards Alameda St/Union Station (Northbound); Left turn on Alameda St (Southbound); Left turn on E 4th St (Eastbound); Right turn onto S Hewitt St and continue to Jobsite (Southbound).

    b. Hours. The hauling operations are restricted to the hours between 9 AM to 3 PM on weekdays, and 8 AM to 4 PM on Saturdays. No hauling should be performed on Sundays.

    c. Staging Area. Trucks shall be staged on the job site only. No staging of trucks on city streets at any time. No interference to traffic, access to driveways must be maintained at all times.

d. ADDITIONAL COMMENTS AND/OR REQUIREMENTS.

The contractor shall contact LADOT at (213) 485-2298 at least four business days prior to hauling to post “Temporary Tow-Away No Stopping” signs along S Hewitt Street, adjacent to the jobsite for hauling if needed.

Flagger control shall be provided during the hauling operations to assist with ingress and egress of truck traffic on S Hewitt Street. If you have any questions, please call Syunik Zohrabyan at (213) 972-4943.

i. The vehicles used for hauling shall be Bottom Dump trucks.

ii. All trucks are to be cleaned of loose earth at the export site to prevent spilling. The contractor shall remove any material spilled onto the public street.

iii. All trucks are to be watered at the export site to prevent excessive blowing of dirt.

iv. The Applicant shall comply with the State of California, Department of Transportation policy regarding movement of reducible loads.

v. Total amount of dirt to be hauled shall not exceed 84,300 cubic yards.

vi. "Truck Crossing" warning signs shall be placed 300 feet in advance of the exit in each direction.

vii. Flagpersons shall be required at the job site to assist the trucks in and out of the project area. Flagpersons and warning signs shall be in compliance with Part II of the latest Edition of "Work Area Traffic Control Handbook."

viii. The permittee shall comply with all regulations set forth by the State of California, Department of Motor Vehicles pertaining to the hauling of earth.

ix. The City of Los Angeles, Department of Transportation, telephone (213) 485-2298, shall be notified at least four business days prior to beginning operations in order to have temporary "No Parking" signs posted along Streets in haul route.

x. A copy of the approval letter from the City, the approved haul route and the approved grading plans shall be available on the job site at all times.

xi. Any change to the prescribed routes, staging and/or hours of operation must be approved by the concerned governmental agencies. Contact the Street Services Investigation and Enforcement Division at (213) 847-6000 prior to effecting any change.

xii. The permittee shall notify the Street Services Investigation and Enforcement Division at (213) 847-6000 at least 72 hours prior to the beginning of hauling operations and shall notify the Division immediately upon completion of hauling operations.

xiii. The Application shall expire eighteen months after the date of the Board of Building and Safety Commission and/or the Department of City Planning approval. The permit fee shall be paid to the Street Services Investigation and Enforcement Division prior to the commencement of hauling operations.

34. Indemnification and Reimbursement of Litigation Costs. Applicant shall do all of the following:

a. Defend, indemnify and hold harmless the City from any and all actions against the City relating to or arising out of, in whole or in part, the City's processing and approval of this entitlement, including but not limited to, an action to attack, challenge, set aside, void, or otherwise modify or annul the approval of the entitlement, the environmental review of the entitlement, or the approval of subsequent permit decisions, or to claim personal property damage, including from inverse condemnation or any other constitutional claim.

b. Reimburse the City for any and all costs incurred in defense of an action related to or arising out of, in whole or in part, the City's processing and approval of the entitlement, including but not limited to payment of all court costs and attorney's fees, costs of any judgments or awards against the City (including an award of attorney's fees), damages, and/or settlement costs.

c. Submit an initial deposit for the City's litigation costs to the City within 10 days' notice of the City tendering defense to the applicant and requesting a deposit. The initial deposit shall be in an amount set by the City Attorney's Office, in its sole discretion, based on the nature and scope of action, but in no event shall the initial deposit be less than $50,000. The City's failure to notice or collect the deposit does not relieve the applicant from responsibility to reimburse the City pursuant to the requirement in paragraph ii.

d. Submit supplemental deposits upon notice by the City. Supplemental deposits may be required in an increased amount from the initial deposit if found necessary by the City to protect the City's interests. The City's failure to notice or collect the deposit does not relieve the applicant from responsibility to reimburse the City pursuant to the requirement in paragraph ii.

e. If the City determines it necessary to protect the City's interest, execute an indemnity and reimbursement agreement with the City under terms consistent with the requirements of this condition.

f. The City shall notify the applicant within a reasonable period of time of its receipt of any action and the City shall cooperate in the defense. If the City fails to notify the applicant of any claim, action, or proceeding in a reasonable time, or if the City fails to reasonably cooperate in the defense, the applicant shall not thereafter be responsible to defend, indemnify or hold harmless the City.

g. The City shall have the sole right to choose its counsel, including the City Attorney's office or outside counsel. At its sole discretion, the City may participate at its own expense in the defense of any action, but such participation shall not relieve the applicant of any obligation imposed by this condition. In the event the applicant fails to comply with this condition, in whole or in part, the City may withdraw its defense of the action, void its approval of the entitlement, or take any other action. The City retains the right to make all decisions with respect to its representations in any legal proceeding, including its inherent right to abandon or settle litigation.

For purposes of this condition, the following definitions apply:

“City” shall be defined to include the City, its agents, officers, boards, commissions, committees, employees, and volunteers.

“Action” shall be defined to include suits, proceedings (including those held under alternative dispute resolution procedures), claims, or lawsuits. Actions includes actions, as defined herein, alleging failure to comply with any federal, state or local law.

Nothing in the definitions included in this paragraph are intended to limit the rights of the City or the obligations of the applicant otherwise created by this condition.

DEPARTMENT OF CITY PLANNING-ENVIRONMENTAL MITIGATION MEASURES

35. Implementation. The Mitigation Monitoring Program (MMP), that is part of the case file and attached as Exhibit B, shall be enforced throughout all phases of the Project. The Applicant shall be responsible for implementing each Mitigation Measure (MM) and shall be obligated to provide certification, as identified below, to the appropriate monitoring and enforcement agencies that each MM has been implemented. The Applicant shall maintain records demonstrating compliance with each MM. Such records shall be made available to the City upon request.

36. Construction Monitor. During the construction phase and prior to the issuance of building permits, the Applicant shall retain an independent Construction Monitor (either via the City or through a third-party consultant), approved by the Department of City Planning, who shall be responsible for monitoring implementation of MMs during construction activities consistent with the monitoring phase and frequency set forth in this MMP.

    The Construction Monitor shall also prepare documentation of the Applicant’s compliance with the MM during construction every 90 days in a form satisfactory to the Department of City Planning. The documentation must be signed by the Applicant and Construction Monitor and be included as part of the Applicant’s Compliance Report. The Construction Monitor shall be obligated to immediately report to the Enforcement Agency any non-compliance with the MMs within two businesses days if the Applicant does not correct the non-compliance within a reasonable time of notification to the Applicant by the monitor or if the non-compliance is repeated. Such non-compliance shall be appropriately addressed by the Enforcement Agency.

37. Substantial Conformance and Modification. After review and approval of the final MMP by the Lead Agency, minor changes and modifications to the MMP are permitted, but can only be made subject to City approval. The Lead Agency, in conjunction with any appropriate agencies or departments, will determine the adequacy of any proposed change or modification. This flexibility is necessary in light of the nature of the MMP and the need to protect the environment. No changes will be permitted unless the MMP continues to satisfy the requirements of CEQA, as determined by the Lead Agency.

    The Project shall be in substantial conformance with the MMs contained in the MMP. The enforcing departments or agencies may determine substantial conformance with MMs in the

MMP in their reasonable discretion. If the department or agency cannot find substantial conformance, a MM may be modified or deleted as follows: the enforcing department or agency, or the decision maker for a subsequent discretionary project related approval finds that the modification or deletion complies with CEQA, including CEQA Guidelines Sections 15162 and 15164, which could include the preparation of an addendum or subsequent environmental clearance, if necessary, to analyze the impacts from the modifications to or deletion of the MMs. Any addendum or subsequent CEQA clearance shall explain why the MM is no longer needed, not feasible, or the other basis for modifying or deleting the MM, and that the modification will not result in a new significant impact consistent with the requirements of CEQA. Under this process, the modification or deletion of a MM shall not, in and of itself, require a modification to any Project discretionary approval unless the Director of Planning also finds that the change to the MM results in a substantial change to the Project or the non-environmental conditions of approval.

BUREAU OF ENGINEERING - STANDARD CONDITIONS

S-1.

a. That the sewerage facilities charge be deposited prior to recordation of the final map over all of the tract in conformance with Section 64.11.2 of the LAMC.

b. That survey boundary monuments be established in the field in a manner satisfactory to the City Engineer and located within the California Coordinate System prior to recordation of the final map. Any alternative measure approved by the City Engineer would require prior submission of complete field notes in support of the boundary survey.

c. That satisfactory arrangements be made with both the Water System and the Power System of the Department of Water and Power with respect to water mains, fire hydrants, service connections and public utility easements.

d. That any necessary sewer, street, drainage and street lighting easements be dedicated. In the event it is necessary to obtain off-site easements by separate instruments, records of the Bureau of Right-of-Way and Land shall verify that such easements have been obtained. The above requirements do not apply to easements of off-site sewers to be provided by the City.

e. That drainage matters be taken care of satisfactory to the City Engineer.

f. That satisfactory street, sewer and drainage plans and profiles as required, together with a lot grading plan of the tract and any necessary topography of adjoining areas be submitted to the City Engineer.

g. That any required slope easements be dedicated by the final map.

h. That each lot in the tract complies with the width and area requirements of the Zoning Ordinance.

i. That 1-foot future streets and/or alleys be shown along the outside of incomplete public dedications and across the termini of all dedications abutting unsubdivided property. The 1-foot dedications on the map shall include a restriction against their use of access purposes until such time as they are accepted for public use.

j. That any 1-foot future street and/or alley adjoining the tract be dedicated for public use by the tract, or that a suitable resolution of acceptance be transmitted to the City Council with the final map.

k. That no public street grade exceeds 15 percent.

l. That any necessary additional street dedications be provided to comply with the Americans with Disabilities Act (ADA) of 2010.

S-2. That the following provisions be accomplished in conformity with the improvements constructed herein:

a. Survey monuments shall be placed and permanently referenced to the satisfaction of the City Engineer. A set of approved field notes shall be furnished, or such work shall be suitably guaranteed, except where the setting of boundary monuments requires that other procedures be followed.

b. Make satisfactory arrangements with the Department of Transportation with respect to street name, warning, regulatory and guide signs.

c. All grading done on private property outside the tract boundaries in connection with public improvements shall be performed within dedicated slope easements or by grants of satisfactory rights of entry by the affected property owners.

d. All improvements within public streets, private street, alleys and easements shall be constructed under permit in conformity with plans and specifications approved by the Bureau of Engineering.

e. Any required bonded sewer fees shall be paid prior to recordation of the final map.

S-3. That the following improvements be either constructed prior to recordation of the final map or that the construction be suitably guaranteed:

a. Construct on-site sewers to serve the tract as determined by the City.

b. Construct any necessary drainage facilities.

c. Install street lighting facilities to serve the tract as required by the Bureau of Street Lighting as required below:

IMPROVEMENT CONDITION: Construct new streetlights: three (3) on 4th St., two (2) on Colyton St., and three (3) on Hewitt St. Construct new pedestrian lights: four (4) on 4th St., two (2) on Colyton St., and four (4) on Hewitt St. In the event that the placement of the new **pedestrian** streetlights potentially prohibits the planting of any new street trees as required by Bureau of Street Services, Urban Forestry Division (see Condition No. 28.b), the location of all tree plantings shall be confirmed by Urban Forestry prior to the installation of any **pedestrian** streetlights. If both components cannot be accommodated, the street tree plantings shall take precedence.

Note: The quantity of streetlights identified may be modified lightly during the plan check process based on illumination calculations and equipment selection. Conditions set: 1) compliance with a Specific Plan; 2) by LADOT; or 3) by other legal instruments excluding the BOE conditions, requiring an improvement of the conditions that will change the geometrics of the public roadway or driveway apron may require additional or the reconstruction of street lighting improvements as part of the condition. To ensure consistency with the ATP3 improvements planned for the Arts District Community, and with Council File No.14-0499-S3 Motion instructing that private development off-site conditions be coordinated with the ATP planned for the Arts District Community, new pedestrian-scale lighting in the public right of way shall be Cree Edge Round pedestrian lights, and be in compliance with LAMC requirements, to the satisfaction of the Bureau of Street Lighting or the reconstruction of street lighting improvements as part of the condition.

d. Plant Street trees and remove any existing trees within dedicated streets or proposed dedicated streets as required by the Street Tree Division of the Bureau of Street Maintenance. All street tree plantings shall be brought up to current standards. To ensure consistency with the ATP3 improvements planned for the Arts District Community, and with Council File No.14-0499-S3 Motion instructing that private development off-site conditions be coordinated with the ATP, all street tree species shall be a minimum 36-inch box tree and shall be one of the following species: Exclamation plane, Crape Myrtle, and Australian Willow. Crape Myrtles shall be planted where power lines cross into the projected future tree canopy. All street trees shall be selected and planted to the satisfaction of the Urban Forestry Division of the Bureau of Street Services. When the City has previously been paid for tree planting, the subdivider or contractor shall notify the Street Tree Division (213-485-5675) upon completion of construction to expedite tree planting.

e. Repair or replace any off-grade or broken curb, gutter and sidewalk satisfactory to the City Engineer.

f. Construct access ramps for the handicapped as required by the City Engineer.

g. Close any unused driveways satisfactory to the City Engineer.

h. Construct any necessary additional street improvements to comply with the Americans with Disabilities Act (ADA) of 2010.

i. That the following improvements be either constructed prior to recordation of the final map or that the construction be suitably guaranteed:

1. Improve 4th St. adjoining the subdivision by the construction of the following:

    i. A concrete curb, a concrete gutter, and a 13-foot full-width concrete sidewalk with tree wells.
    ii. Suitable surfacing to join the existing pavements and to complete a 23-foot minimum half roadway. Widening may be reduced near easterly portion to maintain half dimension of an Avenue III roadway.
    iii. Any necessary removal and reconstruction of existing improvements.
    iv. The necessary transitions to join the existing improvements.

OR

If 4th Street is voluntarily improved, in substantial conformance with the 4th and Hewitt Street improvements diagram (Exhibit C), as approved by the Advisory Agency or as may be modified by the Street Standards Committee, then improve 4th Street adjoining the subdivision by the construction of the following:

i. A concrete curb, a concrete gutter, and a 10-foot full-width concrete sidewalk with tree wells along the bow-truss building and a 13-foot full-width concrete sidewalk with tree wells along the remainder of the site.

ii. Suitable surfacing to join the existing pavements and to complete a 20-foot minimum half roadway. Widening may be reduced near easterly portion to maintain half dimension of an Avenue III roadway. Sidewalk width may be reduced on approach to intersection with Hewitt Street to maintain 26-foot half dimension of roadway or a truck pillow constructed with a larger radius.

iii. Any necessary removal and reconstruction of existing improvements.

iv. The necessary transitions to join the existing improvements.

2. Improve Colyton St. being dedicated and adjoining the tract by the construction of a concrete curb and a 10-foot-wide concrete sidewalk with tree wells including any necessary removal and reconstruction of the existing improvements satisfactory to the City Engineer.

OR

If Colyton Street is voluntarily improved, in substantial conformance with the 4th and Hewitt Street improvements diagram (Exhibit C), as approved by the Advisory Agency or as may be modified by the Street Standards Committee, then improve Colyton Street adjoining the subdivision by the construction of the following:

i. A near-flush curb (¼-inch vertical-height curb with 1:2 chamfer to provide a continuous detectable edge, as per CBC 11B-303.3) and 16-foot-wide concrete sidewalk with tree wells.

ii. Suitable surfacing to join the existing pavement and to complete a 14-foot half roadway from centerline.

iii. Roadway surfacing shall allow for center draining condition and V-section gutters to remain, as per ‘Shared Street’ designation in S-470 standard plan.

iv. Any necessary removal and reconstruction of existing improvements.

v. The necessary transitions to join the existing improvements.

3. Improve Hewitt St. being dedicated and adjoining the tract by the construction of a concrete curb and a 10-foot-wide concrete sidewalk with tree wells including any necessary removal and reconstruction of the existing improvements satisfactory to the City Engineer.

OR

If Hewitt Street is voluntarily improved, in substantial conformance with the 4th and Hewitt Street improvements diagram (Exhibit C), as approved by the Advisory Agency, or as may be modified by the Street Standards Committee, then improve Hewitt Street adjoining the subdivision by the construction of the following:

i. A near-flush curb (¼-inch vertical-height curb with 1:2 chamfer to provide a continuous detectable edge, as per CBC 11B-303.3) and 16-foot-wide concrete sidewalk with tree wells.

ii. Suitable surfacing to join the existing pavement and to complete a 14-foot half roadway from centerline.

iii. Roadway surfacing shall allow for center draining condition and V-section gutters to remain, as per ‘Shared Street’ designation in S-470 standard plan.

iv. Any necessary removal and reconstruction of existing improvements.

v. The necessary transitions to join the existing improvements.

c. Improve all newly dedicated cut corner areas with concrete sidewalks satisfactory to the City Engineer.

Note: Satisfactory arrangements shall be made with the Los Angeles Department of Water and Power, Power System, to pay for removal, relocation, replacement or adjustment of power facilities due to this development. The subdivider must make arrangements for the underground installation of all new utility lines in conformance with LAMC Section 17.05 N.

The final map must record within 36 months of this approval, unless a time extension is granted before the end of such period.

The Advisory Agency hereby finds that this tract conforms to the California Water Code, as required by the Subdivision Map Act.

The subdivider should consult the Department of Water and Power to obtain energy saving design features which can be incorporated into the final building plans for the subject development. As part of the Total Energy Management Program of the Department of Water and Power, this no-cost consultation service will be provided to the subdivider upon his request.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FINDINGS

This Environmental Impact Report (EIR), consisting of the Draft EIR and the Final EIR, is intended to serve as an informational document for public agency decision-makers and the general public regarding the objectives and environmental impacts of the 4th and Hewitt Project (Project), located at 900-926 E. 4th St., 406-414 S. Colyton St., and 405-423 S. Hewitt St., Los Angeles, California, 90013 (Site or Project Site). The Project proposes the demolition of an existing office building, two storage/garage buildings, and surface parking lots, to allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street. The Project will include a total of 340,770 square feet of floor area, comprised of an existing 7,800 square-foot building to remain and a new 332,970 square-foot office building, on a 56,795 square-foot lot (a Floor Area Ratio of 6:1) and a maximum building height of 292 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking.

The City of Los Angeles (City), as Lead Agency, has evaluated the environmental impacts of implementation of the Project by preparing an EIR (Case Number ENV-2017-470-EIR/State Clearinghouse No. 2017091054). The EIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, Public Resources Code (PRC) Section 21000 et seq. and the California Code of Regulations Title 15, Chapter 6 (CEQA Guidelines). The findings discussed in this document are made relative to the conclusions of the EIR.

CEQA Section 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" The procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." CEQA Section 21002 goes on to state that "in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof."

The mandate and principles announced in CEQA Section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. (See CEQA Section 21081[a]; CEQA Guidelines Section 15091[a].) For each significant environmental impact identified in an EIR for a proposed project, the approving agency must issue a written finding, based on substantial evidence in light of the whole record, reaching one or more of the three possible findings, as follows:

(1) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant impacts as identified in the EIR.
(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been, or can or should be, adopted by that other agency.
(3) Specific economic, legal, social, technological, other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

The findings reported in the following pages incorporate the facts and discussions of the environmental impacts that are found to be significant in the Final EIR for the Project as fully set forth therein. Although Section 15091 of the CEQA Guidelines does not require findings to address environmental impacts that an EIR identifies as merely "potentially significant", these findings nevertheless fully account for all such effects identified in the Final EIR for the purpose of better understanding the full environmental scope of the Project. For each environmental issue analyzed in the EIR, the following information is provided:

The findings provided below include the following:

- Description of Significant Effects - A description of the environmental effects identified in the EIR.
- Project Design Features - A list of the project design features or actions that are

included as part of the Project.

- Mitigation Measures - A list of the mitigation measures that are required as part of the Project to reduce identified significant impacts.
- Finding - One or more of the three possible findings set forth above for each of the significant impacts.
- Rationale for Finding - A summary of the rationale for the finding(s).
- Reference - A reference of the specific section of the EIR which includes the evidence and discussion of the identified impact.

With respect to a project for which significant impacts are not avoided or substantially lessened either through the adoption of feasible mitigation measures or feasible environmentally superior alternatives, a public agency, after adopting proper findings based on substantial evidence, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project's benefits rendered acceptable its unavoidable adverse environmental effects. (CEQA Guidelines Sections15093, and 15043[b]; see also CEQA Section 21081[b].)

II. Environmental Review Process

For purposes of CEQA and these Findings, the Record of Proceedings for the Project includes (but is not limited to) the following documents:

Initial Study. The Project was reviewed by the Los Angeles Department of City Planning (serving as Lead Agency) in accordance with the requirements of CEQA (PRC Section 21000 et seq.). The City prepared an Initial Study in accordance with Section 15063(a) of the CEQA Guidelines.

Notice of Preparation. Pursuant to the provisions of Section 15082 of the CEQA Guidelines, the City then circulated a Notice of Preparation (NOP) to State, regional and local agencies, and members of the public for a 30-day period commencing on September 20, 2017 and ending on October 20, 2017. The NOP also provided notice of a Public Scoping Meeting held on October 10, 2017. The purpose of the NOP and the Public Scoping Meeting was to formally inform the public that the City was preparing a Draft EIR for the Project, and to solicit input regarding the scope and content of the environmental information to be included in the Draft EIR. Written comment letters responding to the NOP and the Scoping Meeting were submitted to the City by various public agencies, interested organizations and individuals. The NOP, Initial Study, and NOP comment letters are included in Appendix A of the Draft EIR.

Draft EIR. The Draft EIR evaluated in detail the potential effects of the Project. It also analyzed the effects of a reasonable range of alternatives to the Project, including a "No Project" alternative. The Draft EIR for the Project (State Clearinghouse No. 2017091054), incorporated herein by reference in full, was prepared pursuant to CEQA and State, Agency, and City CEQA Guidelines (City of Los Angeles California Environmental Quality Act Guidelines). The Draft EIR was circulated for a 47-day public comment period beginning on May 26,2022 and ending on July 11, 2022. A Notice of Availability (NOA) was distributed on May 26, 2022 to all property owners within 500 feet of the Project Site and interested parties, which informed them of where they could view the document and how to comment. The Draft EIR was available to the public at the City of Los Angeles, Department of City Planning, and the following local libraries: Los Angeles Central Library, Little Tokyo Brank Library, and Chinatown Branch Library. A copy of the document was also posted online at https://planning.lacity.org. Notices were filed with the County Clerk on May 24, 2022.

Notice of Completion. A Notice of Completion was sent with the Draft EIR to the Governor's Office of Planning and Research State Clearinghouse for distribution to State Agencies on May 24, 2022, and notice was provided in newspapers of general and/or regional circulation.

Final EIR. The City released a Final EIR for the Project on July 21, 2023 which is hereby incorporated by reference in full. The Final EIR constitutes the second part of the EIR for the Project and is intended to be a companion to the Draft EIR. The Final EIR also incorporates the Draft EIR by reference. Pursuant to Section 15088 of the CEQA Guidelines, the City, as Lead Agency, reviewed all comments received during the review period for the Draft EIR and responded to each comment in Chapter II, Responses to Comments, of the Final EIR. On August 1, 2023 responses were sent to all public agencies that made comments on the Draft EIR at least 10 days prior to certification of the EIR pursuant to CEQA Guidelines Section 15088(b). Notices regarding availability of the Final EIR were also sent to property owners and occupants within a 500-foot radius of the Project Site, as well as anyone who commented on the Draft EIR, and interested parties.

Public Hearing. A noticed public hearing for the Project will be held by the Deputy Advisory Agency/Hearing Officer on behalf of the City Planning Commission on August 16, 2023. During the hearing, verbal comments were provided in opposition and support of the Project. Additionally, a comment letter was submitted by Lozeau and Drury, LLP on behalf of Supporters Alliance for Environmental Responsibility (SAFER). The letter provided comments on a variety of environmental topics, including air quality, biological resources, greenhouse gas emissions, and public health and included a technical letter from Matt Hagemann, P.G., C.hc. and Paul E. Rosenfeld, Ph.D. of Soil/Water/Air Projection Enterprise (SWAPE). The City reviewed the comment letter (dated August 15, 2023), and provided written responses to the comment, available as part of the City's administrative case file. The City determined that the comments do not result in any new significant environmental impacts or a substantial increase in any of the severity of significant impacts identified in the Draft EIR. Minor adjustments to Air Quality and GHG are further accounted for in the findings and discussion below. These minor adjustments do not result in any new significant impacts or a substantial increase in the severity of impacts identified in the Draft EIR. As such, in accordance with CEQA Guidelines Section 15088.5, recirculation of the EIR is not required. The documents and other materials that constitute the record of proceedings on which the City's CEQA findings are based are located at the Department of City Planning, Major Projects Section, 221 N. Figueroa Street, Room 1350, Los Angeles, California 90012. This information is proved in compliance with Public Resources Code Section 21081.6(a)(2).

III. Record of Proceedings

For purposes of CEQA and these Findings, the Record of Proceedings for the Project includes (but is not limited to) the following documents and other materials that constitute the administrative record upon which the City approved the Project. The following information is incorporated by reference and made part of the record supporting these Findings of Fact:

- All Project plans and application materials including supportive technical reports;

- The Draft EIR and Appendices, and Final EIR and Appendices, and all documents relied upon or incorporated therein by reference;
- The Mitigation Monitoring Program (MMP) prepared for the Project;
- The City of Los Angeles General Plan and related EIR;
- The Southern California Association of Governments' (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and related EIR (SCH No. 2015031035);
- SCAG's 2020-2045 RTP/SCS and related EIR (SCH No. SCH#2019011061));
- The Municipal Code of the City of Los Angeles, including but not limited to the Zoning Ordinance and Subdivision Ordinance;
- All records of decision, resolutions, staff reports, memoranda, maps, exhibits, letters, minutes of meetings, summaries, and other documents approved, reviewed, relied upon, or prepared by any City commissions, boards, officials, consultants, or staff relating to the Project;
- Any documents expressly cited in these Findings of Fact, in addition to those cited above; and
- Any and all other materials required for the record of proceedings by PRC Section 21167.6(e).

Pursuant to CEQA Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e), the documents and other materials that constitute the record of proceedings upon which the City has based its decision are located in and may be obtained from the Department of City Planning, as the custodian of such documents and other materials that constitute the record of proceedings, located at the City of Los Angeles, Figueroa Plaza, 221 North Figueroa Street, Suite 1350, Los Angeles, CA 90012.
In addition, copies of the Draft EIR and Final EIR are available on the Department of City Planning's website at http://planning.lacity.org (to locate the documents click on the "Project Review," then "Published Documents," under the "Environmental Review" Tab and click on the "Environmental Impact Report (EIR)," tab where the Draft and Final EIR are made available). The Draft and Final EIR are also available at the following four Library Branches:

- Los Angeles Central Library - 630 West Fifth Street, LA, CA 90071
- Little Tokyo Branch Library – 203 South Los Angeles Street, LA, CA 90012
- Chinatown Branch Library – 639 North Hill Street, LA, CA 90012

IV. Project Description

The 4th and Hewitt Project (Project) proposes the demolition of an existing office building, two storage/garage buildings, and surface parking lots, to allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street. The Project will include a total of 340,770 square feet of floor area, comprised of an existing 7,800 square-foot building to remain and a new 332,970 square-foot office building, on a 56,795 square-foot lot (a Floor Area Ratio of 6:1) and a maximum building height of 292 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking.

Inside the new Office Building, the lobby would be an indoor/outdoor space anchored by ground floor commercial spaces on Hewitt St., the existing 7,800-square-foot building and a landscaped courtyard on Colyton St., and additional office space accessible from both 4th St. and the passageway. The Office Building would have a height of 274 feet to the top of the 18th floor, 288 feet to the top of the mechanical roof, 292 feet to the top of the parapet, and a maximum height of 297 feet to the top of the elevator overrun. The Project's proposed floor area ratio (FAR) would be 6:1.

Although there are no open space requirements for commercial uses, the Project would include several areas of publicly accessible open space and tenant amenity spaces. The Project would provide a landscaped and publicly accessible outdoor courtyard, with a pergola, and a passageway to provide pedestrian access between Colyton St. and Hewitt St. The open space and landscaped amenities would be made up of the outdoor public courtyard and passageway on the ground floor, as well as balconies, and terraces on the 6th floor and the rooftop level on the 17th floor. Additionally, the three existing non-protected street trees along 4th St. would be removed and replace with five street trees along 4th St., five street trees along Hewitt St., and two street trees along Colyton St. pursuant to City regulations and approvals and in excess of the City’s 2:1 street tree replacement requirement. Three additional trees, and shrubs, would be planted on-site near the Colyton St. frontage by the existing building formerly occupied by the A+D Museum and the proposed outdoor public courtyard.

V. ENVIROMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT OR LESS THAN SIGNIFICANT WITHOUT MITIGATION IN THE INITIAL STUDY

The Department of City Planning prepared an Initial Study dated September 20, 2017 which is located in Appendix A of the Draft EIR. The Initial Study found the following environmental impacts not to be significant or less than significant without mitigation.

I. Aesthetics

a. Scenic Vista
b. Scenic Resources
c. Visual Character
d. Light & Glare

II. Agricultural and Forest Resources

a. Farmland
b. Existing Zoning for Agricultural Use
c. Forest Land or Timberland Zoning
d. Loss or Conversion of Forest Land
e. Other Changes in the Existing Environment

III. Air Quality

e. Objectionable Odors

IV. Biological Resources

a. Special Status Species
b. Riparian Habitat and Wetlands
c. Wetlands
d. Interfere w/ Wildlife Species/Corridors/Nursery Sites
e. Local Preservation Policies
f. Habitat Conservation Plans

VI. Geological Resources

a(iv). Landslides

e. Septic Tanks

VIII. Hazards and Hazardous Materials

e. Airport Land Use Plans
f. Private Airstrips
h. Wildland Fires

IX. Hydrology and Water Quality

c(iv) Impede or Redirect Flood Flows
g. Mapped 100-Year Flood Hazard Areas
h. 100-Year Flood Hazard

X. Land Use and Planning

a. Divide an Established Community
c. Habitat or Natural Community Conservation Plans

XI. Mineral Resources

a. Loss of Known Mineral Resources
b. Loss of Mineral Resources Recovery Site

XII. Noise

e. Airport Land Use Plans
f. Private Airstrips

XIII. Population and Housing

b. Displacement of Existing Housing
c. Displacement of Existing Residents

XIV. Public Services

c. Schools
d. Parks
e. Libraries

XV. Recreation

a. Increase Use of Existing Parks
b. Construction of Recreation Facilities have an Adverse Effect on the Environment

XVI. Transportation/Traffic

c. Air Traffic Patterns

XVII. Utilities

g. Solid Waste Regulations

The City has reviewed the record and agrees with the conclusion that the above environmental issues would not be significantly affected by the Project and, therefore, no additional findings are needed. The City ratifies, adopts, and incorporates the analysis, explanation, findings, responses to comments, and conclusions of the Initial Study.

VI. ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT OR LESS THAN SIGNIFICANT PRIOR TO MITIGATION

Impacts of the Project that were determined to have no impact or be less than significant in the EIR (including having a less than significant impact as a result of implementation of regulatory compliance measures) and that require no mitigation are identified below. The City has reviewed the record and agrees with the conclusion that the following environmental issues would not be significantly affected by the Project and, therefore, no additional findings are needed. The following information does not repeat the full discussions of environmental impacts contained in the EIR. The City ratifies, adopts, and incorporates the analysis, explanation, findings, responses to comments, and conclusions of the EIR

1. Air Quality

(A) Consistency with Applicable Air Quality Management Plan

(1) Southern California Air Quality Management District's Air Quality Management Plan

As discussed in Section IV.A, Air Quality, of the Draft EIR, on pages IV.A-34-39 and IV.A-47-49, the Air Quality Impact Analysis contained in Appendix B of the Draft EIR, and in Chapter III, Revisions, Clarifications, and Corrections of the Final EIR on pages III-7 through III-13, the Project is consistent the South Coast Air Quality Management District's (SCAQMD) 2016 and 2022 Air Quality Management Plan (AQMP), as well as the applicable City plans and policies. Thus, the Project would not conflict with or obstruct implementation of the AQMP or applicable City policies pertaining to air quality.

(B) Construction Emissions

(1) Construction-Regional Emissions

As discussed in Section IV.A, Air Quality, of the Draft EIR, on pages IV.A-39-42, as shown in Table IV.A-4, *Construction Activity Maximum Daily Emissions,* of the Draft EIR, and IV.A-47-49, the Air Quality Impact Analysis contained in Appendix B of the Draft EIR, and in Chapter III, Revisions, Clarifications, and Corrections of the Final EIR on page III-13, the Project would not produce emissions exceeding SCAQMD Regional Emissions Thresholds for criteria pollutants during construction. Therefore, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard. Thus, the Project-level and cumulative impacts associated with construction regional emissions would be less than significant.

(2) Construction-Localized Emissions

As discussed in Section IV.A, Air Quality of the Draft EIR on pages IV.A-43-44, as shown in Table IV.A-6, *LST and Project Emissions - Construction,* of the Draft EIR, and the Air Quality Impact Analysis contained in Appendix B of the Draft EIR, the Project would not produce construction emissions exceeding SCAQMD's recommended localized standards of significance. Thus, the Project-level and cumulative impacts associated with localized construction emissions would be less than the significance thresholds established by the SCAQMD.

(3) Toxic Air Contaminants (TACs)

As discussed in Section IV.A, Air Quality of the Draft, on page IV.A-44, the Air Quality Impact Analysis contained in Appendix B of this Draft EIR, and Chapter III, Revisions, Clarifications, and Corrections page III-15 of the Final EIR, construction of the project would not emit TACs exceeding SCAQMD standards. The SCAQMD Handbook does not recommend analysis of TACs from short-term construction activities. The rationale for not requiring a health risk assessment for construction activities is the limited duration of exposure. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Specifically, "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Given the short-term construction schedule of approximately 30 months, the Project does not result in a long-term (i.e., 70-year) source of TAC emissions, as disclosed on page IV.A-36 of the Draft EIR. No residual emissions and corresponding individual cancer risk are anticipated after construction.

Thus, the Project-level and cumulative impacts associated with construction TAC emissions would be less than significant.

(C) Operation Emissions

(1) Operation-Regional Emissions

As discussed in Section IV.A, Air Quality, of the Draft EIR, on pages IV.A-41-42, and IV.A-47, the Air Quality impact Analysis contained in Appendix B of the Draft EIR, as well as in Chapter III, Revisions, Clarifications, and Corrections of the Final EIR on page III-14 and Revised Table IV.A-5 *Project Maximum Daily Operational Emissions*, the Project would not produce emissions exceeding SCAQMD Regional Emissions Thresholds for criteria pollutants during operation. Therefore, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard. Thus, the Project-level and cumulative impacts associated with operational regional emissions would be less than significant.

(2) Operation-Localized Emissions

As discussed in Section IV.A, Air Quality, of the Draft EIR, on pages IV.A-46-47, the Air Quality Impact Analysis contained in Appendix B of the Draft EIR, as well as in Chapter III, Revisions, Clarifications, and Corrections of the Final EIR on page III-15 and Revised Table IV.A-7, *LST and Project Emissions-Operations (pounds/day)*, the Project would not produce operational emissions exceeding SCAQMD's recommended localized standards of significance. Thus, the Project-level and cumulative impacts associated with localized operation emissions would be less than the significance thresholds established by the SCAQMD.

(3) Toxic Air Contaminants (TACs)

As discussed in Section IV.A, Air Quality of the Draft, on page IV.A-44 and the Air Quality Impact Analysis contained in Appendix B of this Draft EIR, operation of the Project would not emit TACs exceeding SCAQMD standards. Thus, the Project-level and cumulative impacts associated with operation TAC emissions would be less than significant.

(4) Carbon Monoxide Hot Spots

As discussed in Section IV.A, Air Quality of the Draft, on page IV.A-45 and the Air Quality Impact Analysis contained in Appendix B of this Draft EIR, adding the number of new trips generated by the Project to the intersection with the highest average daily trips at Project buildout in the Project vicinity would be well below the 400,000 vehicles per day, the level at which CO concentrations could exceed thresholds. Thus, operational Project-level and cumulative impacts related to CO hot spots would be less than significant.

(D) Project Design Features

Project Design Feature AIR-PDF-1, as revised in Section III, Revisions, Clarifications, and Corrections, of the Final EIR on page III-10 states that the Applicant will make a reasonable effort to attain diesel-powered equipment that will meet Tier 4 Final emission standards to be used during the construction period, is incorporated into the Project and is incorporated into these Findings as though fully set forth herein.

2. Cultural Resources

(A) Historic Resources

As discussed in Section IV.B, Cultural Resources, of the Draft EIR, on pages IV.B-40-45 and IV.B-50-52 the Phase 1 Cultural Resources Assessment contained in Appendix C1 and the Historical Resources Technical Report contained in Appendix C2 of the Draft EIR, there are no listed historical resources located on the Project Site. As a result, the Project would not cause a direct impact to historic resources. While the Project Site is within a potential historical district, the buildings to be demolished are not contributing buildings to the potential historic district. The Project is located within the vicinity of five contributing buildings, two of which have the potential to be compromised by vibrations from Project construction activities immediately adjacent to or within close proximity of these properties, even in the worst case scenario of damage or destruction of both of these buildings, the Project would not substantially impact the potential historic district. Thus, the Project would not cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines Section 15064.5 and Project-level and cumulative impacts to historic resources would be less than significant.

(B) Human Remains

The Project would comply with regulatory requirements regarding the inadvertent discovery human remains during construction. Thus, the Project-level and cumulative impacts to human remains would be less than significant.

3. Energy

(A) Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources/Conflict with a State or Local Plan for Renewable Energy or Energy Efficiency

As discussed in Section IV.C, Energy on pages IV.C-20-40, of the Draft EIR, and the Energy Calculations contained in Appendix D of the Draft EIR, the Project would not cause wasteful, inefficient, or unnecessary consumption of energy during construction or operation or conflict with the 2020-2045 RTP/SCS as it would develop a commercial infill project within a SCAG-designated HQTA and City-designed TPA in close proximity to transit, which would maximize transit and other alternative modes of transportation and minimize VMT and energy use. Therefore, the Project-level and cumulative impacts to energy resources would be less than significant.

(B) Project Design Features

Project Design Feature TRANS-PDF-3 would require a Transportation Demand Management Program to be implemented. Project Design Feature GHG-PDF-1 requires the incorporation of the additional energy conservation features and for the Project to attain LEED Silver certification, while WS-PDF-1 requires that Water Conservation Features be included as part of the Project. These Project Design Features are incorporated into the Project and are incorporated into these Findings as though fully set forth herein.

4. Geology and Soils

(A) Geological Hazard (Fault Rupture, Seismic Ground Shaking, Liquefaction)

As discussed in Section IV.D, Geology and Soils on pages IV.D-17-19, and 26-27 and the Geotechnical Engineering Reports contained in Appendices E1-E3, of the Draft EIR, with adherence to applicable regulations and any site-specific recommends set forth in a site-specific geotechnical evaluation, the Project would not result in significant direct or cumulative impacts related to geological and soil conditions. As such, the Project-level and cumulative impact to energy resources would be less than significant.

(B) Soil Erosion

As discussed in Section IV.D, Geology and Soils on pages IV.D-20-21, and 26-27, and the Geotechnical Engineering Reports contained in Appendices E1-E4, of the Draft EIR, with adherence to the LADBS Grading Division conditions, the Geotechnical Engineering Investigation along with the 2018 and 2019 updates, and compliance with regulatory requirements, Project-level and cumulative impacts related to soil erosion would be less than significant.

(C) Unstable Geologic Unit

As discussed in Section IV.D, Geology and Soils on pages IV.D-21-23, and 26-27 and the Geotechnical Engineering Reports contained in Appendices E1-E3, of the Draft EIR, the Site is not susceptible to liquefaction, lateral spreading, subsidence, or impacts associated with landslides. Thus, the Project-level and cumulative impacts related to unstable soils would be less than significant.

(D) Expansive Soil

As discussed in Section IV.D, Geology and Soils on pages IV.D-23 and 26-27 and the Geotechnical Engineering Reports contained in Appendices E1-E3, of the Draft EIR, the geological materials underlying the Site are comprised of fill material underlain by native alluvial soils which were tested for expansion in accordance with Expansion Index. On-site geologic materials were found to have very low expansion potential. Thus, the Project-level and cumulative impacts related to expansive soils would be less than significant.

(E) Paleontological Resources

As discussed in Section IV.D, Geology and Soils on pages IV.D-21-23 and 26-27, and the Phase I Cultural Resource Assessment contained in Appendix C1, the Project would be subject to the City's standard condition of approval to address the potential for uncovering of paleontological resources. Therefore, the Project would not result in significant direct or cumulative impacts to paleontological resources. As such, the Project's impacts would be less than significant.

5. Greenhouse Gas Emissions

(A) Conflict with an applicable plan, policy, or regulation and Generate GHGs that may have a Significant Impact on the Environment and GHG Emissions Generation

As discussed in Section IV.E Greenhouse Gas Emission on pages IV.E-42-57 of the Draft EIR, the Greenhouse Gas Emissions Estimates contained in Appendix F of the Draft EIR, and in Section III Revisions, Clarifications and Corrections on pages III-16-41, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2020–2045 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by Senate Bill (SB) 375 and the state's long-term climate goals. The analysis also considers consistency with regulations or requirements adopted by the Assembly Bill (AB) 32 2008 Climate Change Scoping Plan and subsequent updates, and the Sustainable City pLAn/L.A.'s Green New Deal.

As provided the Project would not conflict with such plans for all the reasons set forth on Table IV.E-4, *Project Consistency with the 2008 AB 32 Scoping Plan Greenhouse Gas Emissions Reduction Measures*, Table IV.E-5, *Project Consistency with the 2017 Scoping Plan,* and Table IV.E-6, *Project Consistency with L.A'S Green New Deal,* of the Draft EIR. Additionally, the Project would not conflict with the 2020-2045 RTP/SCS GHG emissions reduction strategies as shown in Table IV.H-1, *Project Conflicts with Applicable Goals of the 2020-2045 RTP/SCS,* contained in Appendix I, Land Use Policy Consistency Tables, of the Draft EIR. Also, as discussed on pages III-16 through III-22 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, the Project would not conflict with the 2022 Scoping Plan.

For the reasons discussed in Draft EIR Section IV.E, the Project's post-2030 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets and Executive Orders S-3-05 and B-30-15.

Compliance with a GHG emissions reduction plan renders a Project less than significant. In support of the consistency analysis which describes the Project's compliance with or exceedance of performance-based standards included in the regulations and policies outlined in the applicable portions of the Climate Change Scoping Plan, the 2020–2044 RTP/SCS, the LA Green Plan, and the Sustainable City pLAn, quantitative calculations are provided in *Table IV.E-8, Operational GHG Emissions of the Project*.

Additionally, as shown in Table IV.E-8, *Operational GHG Emissions of the Project,* of the Draft EIR, when taking into consideration implementation of relevant project design features, as well as the requirements set forth in the City of Los Angeles Green Building Code and full implementation of current state mandates, the Project's GHG emissions in 2025 would be 2,441 MTCO2e per year (amortized over 30 years) during construction and 6,258 MTCO2e per year during operation, resulting in a combined total of 8,699 MTCO2e per year.

As determined in Draft EIR, given the Project's consistency with statewide, regional, and local plans adopted for the purpose of reducing GHG emissions, it is concluded that the Project's incremental contribution to GHG emissions and their effects on climate change would not be cumulatively considerable. For these reasons, the Project's cumulative contribution to global climate change is less than significant.

(B) Project Design Features

Project Design Features GHG-PDF-1, which requires incorporation of additional energy conservation features required to attain LEED Silver certification. These Project Design Feature is incorporated into the Project and is incorporated into these Findings as though fully set forth herein.

6. Hazards and Hazardous Materials

(A) Routine Transport, use, or Disposal of Hazardous Materials

As discussed in Section IV.F Hazards and Hazardous Materials on pages IV.F-27-28 and IV.F 36-37 of the Draft EIR, the Phase I ESA and Phase II Subsurface Site Investigation contained in Appendices G-1 and G-2 of the Draft EIR, and Section III Revisions, Clarifications and Corrections on pages III-41-42, materials used during construction and operation of the Project would be handled, transported and disposed of in accordance with the manufacturer's specifications for each material and in compliance with applicable local, State, and federal regulations.

Thus, the Project-level and cumulative impacts related to the transport, use, or disposal of hazardous materials would be less than significant.

(B) Emit Hazardous Emissions within on-quarter of a mile of a School

As discussed in Section IV.F Hazards and Hazardous Materials on pages IV.F-31-32 and IV.F 39 of the Draft EIR, and the Phase I ESA and Phase II Subsurface Site Investigation contained in Appendices G-1 and G-2 of the Draft EIR, the Project Site is not located within one-quarter of a mile of an existing or proposed school. Thus, the Project-level and cumulative impacts related emitting hazards within one-quarter of a mile of an existing school.

(C) Be Located on a Site on a List of Hazardous Materials Site

As discussed in Section IV.F Hazards and Hazardous Materials on pages IV.F-32-34 and IV.F 39 of the Draft EIR, and the Phase I ESA and Phase II Subsurface Site Investigation contained in Appendices G-1 and G-2 of the Draft EIR, the Project is not located on a site that is included on a list of hazardous material sites complied pursuant to Government Code Section 65962.5. Thus, the Project-level and cumulative impacts would be less than significant.

(D) Impair Implementation of an adopted Emergency Response Plan

As discussed in Section IV.F Hazards and Hazardous Materials on pages IV.F-34-36 and IV.F 39-40 of the Draft EIR, and the Phase I ESA and Phase II Subsurface Site Investigation contained in Appendices G-1 and G-2 of the Draft EIR the Project would not interfere with an adopted emergency response plan. Thus, the Project-level and cumulative impacts regarding the impairment of an adopted emergency response plan would be less than significant.

7. Hydrology and Water Quality

(A) Violate Water Quality Standards or Discharge Requirements

(1) Operation

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-25-27 and IV.G 40-41 of the Draft EIR, and the Geotechnical Engineering Investigation contained in Appendix E-1 and the Water Resources Appendix contained in Appendix H of the Draft EIR, the Project operations would not violate water quality standards or discharge requirements, nor would they substantially degrade surface or groundwater quality. Thus, the Operational Project-level and cumulative impacts regarding water quality and discharge requirements would be less than significant.

(B) Deplete Groundwater Supplies/Interfere with Groundwater Recharge

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-28-29 and IV.G-41 of the Draft EIR, and the Water Resources Appendix contained in Appendix H of the Draft EIR, the Project’s construction activities would not reduce groundwater levels to such an extent that the production rate of pre-existing nearby wells would no longer be able to support existing land uses or planned uses for which permits have been granted. Operation of the Project would slightly improve infiltration through implementation of infiltration BMPs that comply with the LID Ordinance. Operation of the Project would not substantially interfere with groundwater recharge such that it may impede sustainable groundwater management of the basin.

Thus, construction and/or operation of the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that it may impeded sustainable groundwater management of the basin during construction and/or operation. Project-level and cumulative impacts regarding groundwater supplies and groundwater recharge would be less than significant.

(C) Alter the Existing Drainage which would result in Erosion Off-Site

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-29-31 and IV.G 41-42 of the Draft EIR, and the Geotechnical Engineering Investigation contained in Appendix E-1 and the Water Resources Appendix contained in Appendix H of the Draft EIR, the Project's construction activities would have minimal effect on the Site's drainage pattern after implementation of the required SWPPP and in conjunction with the City's permitting regulations; the Project's construction activities would not substantially alter the existing drainage patter of the Site, including through the alternation of the course of a stream or river or through the addition of impervious surfaces in a manner that would result in substantial erosion on- or off-site. During operation of the Project, the amount of runoff and flow rate from the Site would be reduced. With implementation of regulatory requirements, runoff volumes from the Site would decrease; the Project's construction activities would not substantially alter the existing drainage patter of the Site, including through the alternation of the course of a stream or river or through the addition of impervious surfaces in a manner that would result in substantial erosion on- or off-site. Project-level and cumulative impacts regarding substantial erosion or siltation on- or off-site would be less than significant.

(E) Alter the Existing Drainage which would result in a Flooding Off-Site

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-31-32 and IV.G 41-42 of the Draft EIR, and the Geotechnical Engineering Investigation contained in Appendix E-1 and the Water Resources Appendix contained in Appendix H of the Draft EIR, runoff from the Site would continue to be conveyed by existing storm drain facilities during the Project's temporary construction activities; the Project's construction activities would not substantially alter the existing drainage pattern of the Site, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner that would substantially increase the rate or amount of surface runoff resulting in flooding on- or off-site. During operation of the Project, the introduction of BMPs would result in a reduction in the volume of runoff leaving the Site, and the Project's operations would not substantially alter the existing drainage pattern of the Site, including through the alteration of a course of a stream or river or through the addition of impervious surfaces, in a manner that would Project-level and cumulative impacts regarding substantial erosion or siltation on- or off-site would be less than significant.

(F) Create Runoff that Exceeds Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-33-34 and IV.G 41 of the Draft EIR, and the Geotechnical Engineering Investigation contained in Appendix E-1 and the Water Resources Appendix contained in Appendix H of the Draft EIR, the Project's construction activities would not substantially alter the existing drainage pattern on the Site, including through the alternation of the course of a stream or river in a manner that would contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. During operation of the Project, with implementation of the Project BMPs and compliance with LID regulations, operation of the Project would not substantially alter the existing drainage pattern of the Site, including through the alteration of the course of stream in a manner that would contribute runoff water that would exceed capacity of storm drainage systems or provide substantial additional sources of polluted runoff. Project-level and cumulative impacts regarding runoff and substantial sources of pollution would be less than significant.

(G) Inundation by Seiche, Tsunami, or Mudflow

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-35-36 the Project Site is not located in a tsunami, or seiche zone and is, therefore, not subject to inundation from 100-year floods, tsunamis or seiches. Project-level and cumulative impacts regarding seiches, tsunamis, or mudflow would be less than significant.

(H) Obstruct a Water Quality Control Plan or Sustainable Groundwater Management Plan

(1) Operation

As discussed in Section IV.G Hydrology and Water Quality on pages IV.G-37-39 and IV.G 42 of the Draft EIR, and the Geotechnical Engineering Investigation contained in Appendix E-1 and the Water Resources Appendix contained in Appendix H of the Draft EIR, during operation, the Project would comply with the Los Angeles Basin Plan or Sustainable Groundwater Management Plan (SGMP) and Project-level and cumulative impacts related to obstructing a water quality control plan or SGMP would be less than significant.

8. Land Use and Planning

(A) Conflict with an Applicable Plan, Policy, or Regulation
As discussed in Section IV.H Land Use Planning on pages IV.F-16-33 of the Draft EIR, and Appendix I Land Use Policy Consistency Tables, the Project would not conflict with the applicable goals, objectives, and policies adopted for the purpose of avoiding or mitigating an environmental effect. Thus Project-level and cumulative impacts would be less than significant.

9. Noise

(A) Construction Noise

(1) Noise Generated by On-road Construction Traffic

As discussed on pages IV.I-36-37, IV.I-67, Table IV.I-10, *On-Road Vehicular Construction Noise Impact (dBA Leq),* and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I, Noise, of the Draft EIR, the Project's truck trips would generate maximum noise levels of approximately 63 dBA Leq along each roadway. On-road construction trips would not exceed the significant thresholds along the truck routes. Regarding cumulative impacts, it is unlikely that construction truck traffic associated with the nearby Related Projects would add 92 additional truck trips along the same travel route at the same time as the Project. Even in this unlikely scenario, the Project's 18 truck trips per hour would not substantially contribute to the overall cumulative impact. Thus Project-level and cumulative noise impacts related to on-road construction traffic would be less than significant.

(B) Operation

(1) Roadway Traffic Noise

As discussed on pages IV.I-38-41, IV.I-70-71, Table IV.I-12, *Traffic Noise Impacts Analysis (CEL in dB at 50 feet from Centerline),* Table IV.I-25, *Cumulative Traffic Related Noise Impacts,* and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I, Noise, of the Draft EIR, no Project-related traffic noise impact exceeds the significance threshold of either a +3.0 dB increase to or with the normally unacceptable (70 dB CNEL) or clearly unacceptable (75 dB CNEL) category or a +5 dB or greater traffic noise increase. Regarding cumulative impacts, the Project would not substantially contribute to cumulative increases and overall roadway noise would be less than the noise levels of the sensitive uses "normally unacceptable" noise compatibility category. Thus Project-level and cumulative noise impacts related to operational roadway traffic noise would be less than significant.

(2) Parking Structure Noise, Mechanical Equipment Noise, Loading Dock/Trash Collection, and Garage Ventilation Equipment

As discussed on pages IV.I-44-49, IV.I-76, Table IV.I-15, *Loading and Trash Collection Noise Levels at the Closest Sensitive Receptor,* and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I, Noise, of the Draft EIR, the Project's and cumulative noise level from operational stationary sources, including the parking structure, mechanical equipment, loading dock/trash collection, and garage ventilation equipment would be less than significant.

(3) Composite Operational Noise Levels

As discussed on page IV.I-49, Table IV.I-17, *Composite Operational Noise Levels,* and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter

IV.I, Noise, of the Draft EIR, the composite operational noise levels would not exceed the threshold (ambient noise level + 5 dBA) and composite operational noise impacts would be less than significant.

(C) Construction Vibration

(1) Vibration Generated by Off-road Construction Activity – Human Annoyance

As discussed on pages IV.I-56, IV.I-57-58, Table IV.I-22, *Vibration Annoyance for Construction Equipment at Multiple Distances*, and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I Noise, of the Draft EIR, with respect to potential human annoyance impacts, FTA's Transit Noise and Vibration Impact Assessment identifies residential and institutional buildings as vibration sensitive receptors. Under the FTA's vibration criteria for potential human annoyance, vibration levels exceeding 72 VdB would be considered a human annoyance impact. The Project's and related project's vibration would not exceed the FTA's 72 VdB human annoyance criterion for frequent events. Thus, Project-level and cumulative impacts regarding vibration from off-road construction activity for human annoyance would be less than significant.

(2) Cumulative Level Vibration Generated by Off-road Construction Activity – Building Damage

As discussed on pages IV.I-68-69 and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I Noise, of the Draft EIR, the Project could result in a building damage-related vibration impact at 427 S Hewitt St., with or without the cumulative contribution of Related Project 94. However, the neared Related Project would not worsen or contribute to the Project's significant impact related to potential vibration damage from the Project. Thus, Cumulative-level impacts regarding vibration generated by off-road construction activity for building damage would be less than significant.

(3) Vibration Generated by On-road Construction Activity – Building Damage

As discussed on pages IV.I- 58-59, IV.I-69-70, Table IV.I-23, *Haul Route Truck Vibration Impacts,* and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I, Noise, of the Draft EIR, the Project would not result in the exposure of persons to or generation of excessive groundborne vibration for building damage. Vibration levels along the haul route would also be below the fragile building damage threshold criterion of 0.12 in/sec PPV. Thus, Project-level and cumulative impacts regarding vibration from on-road construction activity for building damage would be less than significant.

(D) Operation Vibration

As discussed on pages IV.I-60-61, IV.I-77, implementation of Project Design Feature NOI-PDF-6, and in the Noise and Vibration Impact Analysis contained in Appendix J, in Chapter IV.I, Noise, of the Draft EIR, vibration would not amplify through all levels of the Project structure. Thus, Project-level and cumulative impacts regarding operational vibration would be less than significant.

(E) Project Design Features

Project Design Feature NOI-PDF-1-NOI-PDF-3, requires the use of mufflers, noise shielding equipment, and rubber tired equipment. Project Design Feature NOI-PDF-4 and NOI-PDF-5 require that an on-site construction manager respond to noise complaints and that construction supervisors ensure compliance with the required regulations and best practices. Project Design Feature NOI-PDF-6 requires that rooftop mechanical equipment be acoustically screened from off-site locations and include vibration-attenuation mounts. These Project Design Features are incorporated into the Project and are incorporated into these Findings as though fully set forth herein.

10. Population and Housing

(A) Induce Substantial Population Growth Indirect and Direct

As discussed in Section IV.J Population and Housing on pages IV.J-11-18 of the Draft EIR, and as shown in Table IV.J-1, *Growth Estimates for the City and Downtown Community Plan Area,* Table IV.J-2, *Employees Generated by the Project,* Table IV.J-2, *Employees Generated by the Project,* Table IV.J-3, *Employment Impact of the Project,* and Table IV.J-4, *Employee Estimates for Related Projects,* of the Draft EIR, the employment and population generated by the Project would be within SCAG's growth projections for the region and the Project's increment of the cumulative employment growth in the City and Downtown Community Plan area would not be substantial since it would represent only 0.4 percent of the combined City and Related Projects employment growth in 2045 and 0.7 percent of the combined Downtown Community Plan area and Related Project employment growth in 2045. The Project also would not extend roads or other infrastructure to currently unserved areas. Therefore, the Project would not: induce substantial unplanned population growth in an area, either directly or indirectly or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing. Therefore, the Project-level and cumulative impacts related to population and housing would be less than significant.

11. Public Services

(A) Public Services – Fire Protection

As discussed in Section IV.K.1 Fire Protection Services on pages IV.K.1-19-28 and Appendix K Public Services Correspondence, of the Draft EIR, Project construction, operation, and cumulative impacts would not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, needed for new or physically altered governmental facilities. Therefore, impacts to fire protection services during Project construction, operation and in the cumulative condition would be less than significant.

(B) Public Services – Police Protection

As discussed in Section IV.K.2 Police Protection Services on pages IV.K.2-13-20, Appendix K Public Services Correspondence of the Draft EIR, and Section III, Revisions, Clarifications, on pages III-46-47, the Project construction, operation, and cumulative impacts would not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, needed for new or physically altered governmental facilities. Therefore, impacts to police protection services during Project construction, operation and in the cumulative condition would be less than significant.

(C) Project Design Features – Police Protection

Project Design Features POL-PDF-1 and POL-PDF-2, as revised in Section III, Revisions, Clarifications, and Corrections, of the Final EIR on pages III-46-47 states that the Applicant will be required to provide security during construction and operation and lighting. These Project Design Feature is incorporated into the Project and is incorporated into these Findings as though fully set forth herein.

12. Transportation

(A) Program, Plans, Ordinance or Policy

As discussed in Section IV.L, Transportation on pages IV.L-33-40 and 47-48 of the Draft EIR, the Transportation Assessment included in Appendices L1-L3 of the Draft EIR, and in Section III Revisions, Clarifications and Corrections on pages III-47-49 the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and therefore Project-level and cumulative impacts were determined to be less than significant.

(B) CEQA Guidelines Section 15064.3, subdivision (b)

As discussed in Section IV.L, Transportation on pages IV.L-40-43 and 48-49 of the Draft EIR, the Transportation Assessment included in Appendices L1-L3 of the Draft EIR, and in Section III Revisions, Clarifications and Corrections on pages III-47-49, Project-level and cumulative impacts related to VMT were determined to be less than significant.

(C) Hazardous Design

As discussed in Section IV.L, Transportation on pages IV.K-43-45 and IV.K-49 of the Draft EIR, the Transportation Assessment included in Appendices L1-L3 of the Draft EIR, the Project would not include any hazardous geometric design features, and therefore Project-level and cumulative impacts were determined to be less than significant.

(D) Emergency Access

As discussed in Section IV.L, Transportation on pages IV.K-45-47 and IV.K-49 of the Draft EIR, the Transportation Assessment included in Appendices L1-L3 of the Draft EIR, the Project would not result in inadequate emergency access, and therefore Project-level and cumulative impacts were determined to be less than significant.

(F) Project Design Features

Project Design Feature TRANS-PDF-1 and TRANS-PDF-2, as revised in Section III, Revisions, Clarifications, and Corrections, of the Final EIR on pages III-47-48 requires the implementation of Construction Management Plan and a Transportation Demand Management program, are incorporated into the Project and incorporated into these findings as fully set forth herein. These Project Design Features were considered in the analysis of potential impacts.

13. Tribal Cultural Resources

(A) Cause a Substantial Adverse Change to a Tribal Cultural Resource

As discussed in Section IV.M Tribal Cultural Resources on pages IV.M-14-18 of the Draft EIR and in the Ethnographic Report (Tribal Cultural Resources) contained in Appendix M, of the Draft EIR, with the required adherence to the City's standard Condition of Approval regarding the inadvertent tribal cultural resource discoveries, the Project would not result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing or to a tribal cultural resources that may be determined to have cultural value to a California Native American tribe or that may be determined to be a significant resource by the City in its role as the Project's Lead Agency. therefore Project-level and cumulative impacts were determined to be less than significant.

14. Utilities and Service Systems – Solid Waste

As discussed in Section IV.N.1 Utilities and Service Systems – Solid Waste on pages IV.N.1-13-16 and IV.N.1-17-21 of the Draft EIR the Project would generate solid waste during construction and operation. However, as indicated therein, the Project would not generate solid waste in excess of available capacity or State or local standards since the Project would meet or exceed the mandated diversion rates and the Project's generation of construction solid waste would amount to approximately 0.28 percent of available capacity at one of the available disposal sites while the solid waste generated during Project operation would amount to only 0.004 percent of available capacity at the Sunshine Canyon Landfill. Additionally, as further discussed therein, Project's contribution to cumulative impacts related to solid waste would not be cumulatively considerable as the combined generated solid waste would represent a small fraction of available capacity. As such, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, the Project-level and cumulative impacts related to solid waste would be less than significant.

15. Utilities and Service Systems – Wastewater

As discussed in Section IV.N.2 Utilities and Service Systems – Wastewater on pages IV.N.2-13-16 and IV.N.2-17-21 of the Draft EIR, and the Utilities Technical Report contained in Appendix N of the Draft EIR, the Project would generate waste during construction and operation thereby generating a demand for wastewater conveyance and treatment infrastructure capacity. However, as further indicated therein, the Project would include connections to the existing off-site sewer mains in compliance with regulatory requirements; the Project would comply with applicable water conservation requirements and implement additional water conservation measures through Project Design Feature WS-PDF-1 which would result in reduction in water flows; the existing sewer mains in the area have adequate capacity to serve the Project; and, the Hyperion Water Reclamation Plant has adequate treatment capacity to serve the Project in addition to existing and projected future commitments. Thus, the Project would not generate wastewater in excess of available capacity or State or local standards since the Project and would generate an increase in wastewater that would represent only 0.03 percent of the Hyperion Water Reclamation Plant's available capacity. As such, the Project's contribution would not be cumulatively considerable. Hence, the Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects, and would result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Therefore, the Project would result in less than significant Project-level and cumulative wastewater impacts.

16. Utilities and Service Systems – Waster Supply and Infrastructure

(A) Relocation or Construction of New/Expanded Water Facilities, the Construction of which Could Cause Significant Environmental Effects

As discussed in Section IV.N.3 Utilities and Service Systems – Water Supply and Infrastructure on pages IV.N.3-27-29 and IV.N.3 32-33 of the Draft EIR, and the Utilities Technical Report contained in Appendix N of the Draft EIR, and the Water Assessment Report contained in Appendices O1 and O2 of the Draft EIR, neither construction or operation of the Project would require new or expanded water facilities, the construction of which would cause environmental effects. Therefore, the Project would result in less than significant Project-level and cumulative water supply infrastructure impacts.

(B) Water Supply

As discussed in Section IV.N.3 Utilities and Service Systems – Water Supply and Infrastructure on pages IV.N.3-29-36 of the Draft EIR, and the Utilities Technical Report contained in Appendix N of the Draft EIR, and the Water Assessment Report contained in Appendices O1 and O2 of the Draft EIR, the Project would generate a demand for water. However, as further indicated therein, the Project would comply with applicable water conservation requirements and would implement additional water conservation measures beyond State and local code requirements through implementation of Project Design Feature WS-PDF-1 (Water Conservation Features). The Los Angeles Department of Water and Power (LADWP) water supplies are available to serve the Project along with LADWP's existing and projected future commitments during normal, dry and multiple dry years for the foreseeable future. As such, the Project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, the Project would result in less than significant Project-level and cumulative water supply impacts.

(C) Project Design Features

Project Design Feature WS-PDF-1 which requires several water efficiency features to be implemented as part of the Project (including high efficiency toilets, low flow showerheads, domestic water heating systems, drip/subsurface and hydro-zone irrigation, and drought tolerant plants), is incorporated into the Project and incorporated into these findings as fully set forth herein. These Project Design Features were considered in the analysis of potential impacts.

17. Utilities and Service Systems – Electric Power, Natural Gas and Telecommunications Infrastructure

As discussed in Section IV.N.4 Utilities and Service Systems –Electric Power, Natural Gas and Telecommunications Infrastructure on pages IV.N.4-.8-15 of the Draft EIR, and the Utilities Technical Report contained in Appendix N of the Draft EIR the Project would generate a demand for electricity, natural gas, and telecommunications infrastructure capacity. However, as further indicated therein, the Project would develop the on-site energy infrastructure, and the connections to the existing off-site electricity, natural gas, and telecommunication lines in compliance with regulatory requirements. LADWP has confirmed that it has sufficient capacity for the electricity demand generated by the Project and future growth; SoCalGas has confirmed that it has sufficient infrastructure for Project demand which would represent only 0.0006 percent of SoCalGas' forecasted natural gas consumption for 2025; and telecommunication service providers have existing aerial and/or underground telecommunication facilities within the immediate vicinity to serve the Project Site. The Project would comply with applicable energy conservation and energy infrastructure requirements and would implement additional energy conservation measures in accordance with Project Design Feature GHG-PDF-1 (which requires the incorporation of the additional energy conservation features in the Project required to attain LEED Silver certification); and the existing electricity, natural gas, and telecommunication lines in the area have adequate capacity to serve the Project and future growth. As such, the Project would not require or result in the relocation or construction of new or expanded electricity, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Therefore, the Project would result in less than significant Project-level and cumulative impacts to electricity, natural gas, and telecommunication infrastructure.

18. Wildfire

As discussed on page V-15 in Chapter V, Other CEQA Considerations, in the Draft EIR, at the time of commencing environmental review for the Project, the State CEQA guidelines did not include a separate analysis for wildfire risks. However, this environmental assessment topic only pertains to property located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones. The Project Site is located in an urbanized area, there are no wildlands located in the vicinity of the Project Site, and the Project Site is not located within a City designated Very High Fire Hazard Severity Zone, fire buffer zone, State Responsibility Areas for wildfires, or very high fire hazard severity zone. Therefore, the Project would have no impact related to wildfires. As such, the Project would not: (1) Substantially impair an adopted emergency response plan or emergency evacuation plan; (2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire; (3) Require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and/or (4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the Project would not create any Project-level or cumulative impact related to wildfires.

VI. Less than Significant Impacts with Mitigation

The EIR determined that the Project has potentially significant environmental impacts in the areas discussed below. The EIR identified feasible mitigation measures to avoid or substantially reduce the environmental impacts in these areas to a level of less than significant. Based on the information and analysis set forth in the EIR, the Project would not have any significant environmental impacts in these areas, as long as all identified feasible mitigation measures are incorporated into the Project. The City again ratifies, adopts, and incorporates the full analysis, explanation, findings, responses to comments, and conclusions of the EIR.

1. Cultural Resources – Archeological Resources

(A) Impact Summary

As discussed on pages IV.B-46 and IV.B-52 of Section IV.B, Cultural Resources, of the Draft EIR, Project construction would involve excavation to a depth on 38 feet within the Project Site and excavation on City streets for the installation of sidewalks where none currently exist, and, potentially, for utility connections. While no known archeological resources have been identified within the Project Site, the Project Site area is considered sensitive for prehistoric cultural resources. Additionally, research of the Project area determined that a component of the Zanja Madre system, Zanja No. 2, flowed in the Project area, west of the Project Site and most likely within the right-of-way of Colyton St. As such, Project construction impacts to archeological resources would be significant without mitigation.

(B) Project Design Features

No specific Project Design Features are proposed with regard to archaeological resources.

(C) Mitigation Measures

CUL-MM-1 Archaeological Resource Monitoring. Prior to the issuance of a demolition permit, the Applicant or its Successor shall retain a Qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (Qualified Archaeologist) to oversee an archaeological monitor who shall be present during construction activities on the Project Site such as demolition, clearing/grubbing, grading trenching, or any other construction excavation activity associated with the Project. The activities to be monitored shall also include off-site improvements in the vicinity of the Project Site, such as utility, sidewalk, or road improvements. The monitor shall have the authority to direct the pace of construction equipment in areas of high sensitivity. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Archaeologist. Prior to commencement of excavation activities, an archaeological sensitivity training shall be carried out by the Qualified Archaeologist, focusing on how to identify archaeological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event.

CUL-MM-2 Archaeological Resource Discovery. In the event that historic or prehistoric archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 50-foot buffer shall be established by the Qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the Qualified Archaeologist. If a resource is determined by the Qualified Archaeologist to constitute a "historical resource" pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15064.5 (a) or a "unique archaeological resource "pursuant to Public Resources Code (PRC) Section 21083.2 (g), the Qualified Archaeologist shall coordinate with the Applicant and the Department of City Planning to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the Project area, consultation with interested Native American parties shall be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The treatment plan established for the resources shall be in accordance with State CEQA Guidelines Section 15064.5(f) for historical resources and PRC Section 21083.2(b) for unique archaeological resources. As noted in California Code of Regulations Section 15126.4(b)(A), preservation in place (i.e., avoidance) is the preferred manner of treatment. If, in coordination with the City's Office of Historic Resources and with final approval by the Department of City Planning, it is determined that preservation in place is not feasible, appropriate treatment of the resources shall be developed by the Qualified Archaeologist and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological materials, they shall be donated to a local school or historical society in the area for educational purposes.

- **Zanja Conduit System Discovery.** In the event that Zanja Conduit System-related infrastructure is unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. An appropriate exclusion area that accounts for the linear nature of the resource shall be established by a Qualified Archaeologist, meeting the Secretary of the Interior Standards in Archaeology. Construction activities shall not be allowed to continue within the exclusion area until directed by the Qualified Archaeologist in consultation with the Department of City Planning, but work shall be allowed to continue outside of the exclusion area. The Qualified Archaeologist shall coordinate with the Applicant or its Successor, the Department of City Planning, and the City's Office of Historic Resources (OHR) to develop a formal treatment plan for the resource that would serve to mitigate impacts to the resource(s). The treatment measures listed in California Code of Regulations Section 15126.4(b) shall be considered when determining appropriate treatment for the Zanja resource. Treatment shall be designed to address the Zanja resource's eligibility under Criterion 1 (significant events) and 4 (scientific data) as well as eligibility as a unique archaeological resource of the likely form of the Zanja, to the best of current knowledge (e.g., is it assumed to be made of wood/concrete/earthen etc., based on known archival research) and may include implementation of data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. At a minimum, a commemoration program that includes the development of an interpretive exhibit/display/signage or plaque at the Project Site shall be developed. In addition, other public educational and/or interpretive treatment measures shall be developed as determined appropriate by the Qualified Archaeologist in consultation with the OHR. Any associated artifacts collected that are not made part of the interpretation/education collection shall be curated or donated as specified above (see "Archaeological Resource Discovery").

CUL-MM-3 Archaeological Resource Documentation. Following the conclusion of archaeological monitoring but prior to the release of the grading bond, the Qualified Archaeologist shall prepare a final report and complete the appropriate California Department of Parks and Recreation Site Forms. The report shall include a description of archaeological resources unearthed (Zanja-related or other archaeological resources), if any; treatment of the resources; results of the artifact processing, analysis, research; and an evaluation of the resources with respect to the California Register and the California Environmental Quality Act. The report and the Site Forms shall be submitted by the Project Applicant or its Successor to the Department of City Planning, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the development and required mitigation measures.

(D) Finding

Pursuant to PRC Section 21081(a)(1), the City finds that changes or alterations have been required in, or incorporated into, the Project, which mitigate or avoid the potential significant effects on the environment.

(E) Rational for Finding

Impacts to archaeological resources would be reduced to less than significant with implementation of Mitigation Measures CUL-MM-1 (Archeological Resource Monitoring), CUL-MM-2 (Archeological Resource Discovery), and CUL-MM-3 (Archeological Resource Documentation), described above. These three Mitigation Measures will ensure that a Qualified Archeologist will monitor construction activities if a potential resource is uncovered, as well as train construction workers, ensure that appropriate steps are made to protect the resource, and document the resource. With respect to the Zanja, if any portion is discovered, Mitigation Measure CUL-MM-2 ensures that treatment measures are designed to address the Zanja resource's eligibility under Criterion 1 (significant events) and 4 (scientific data), as well as eligibility as a unique archaeological resource and may include implementation of data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. As such, the Project's impacts on archeological resources would be less than significant with mitigation.

Impacts to archeological resources would be site specific and related to ground-disturbing activities during the construction period. Due to the physical separation between the Project Site and Related Project sites, the potential for the Project and Related Projects to collectively create a cumulative impact on archaeological resources is limited. Further, the Department of City Planning has established standard Conditions of Approval under its police power and land use authority to address the inadvertent discovery of archaeological resources including requiring the immediate halt of construction activities in the vicinity of the discovery, coordination with the City, and development and implementation of appropriate actions for treating the discovery. However, where record searches or surveys show the presence or likely presence of archaeological resources on a site, and where development activities have the potential to adversely affect such resources, the Department of City Planning requires the implementation of project-specific mitigation measures in association with CEQA review, as was done for this Project. As with the Project, implementation of such measures, would reduce significant impacts of the Related Projects to a less-than-significant level. Since the Project's impacts to archeological resources would be less than significant with implement Mitigation Measures CUL-MM-1, CUL-MM-2, and CUL-MM-3, the Project's contribution to cumulative archaeological resource impacts would not be cumulatively considerable. Therefore, Project-level and cumulative impacts to archeological resources would be less that significant with mitigation.

(F) Reference

Section IV.B, Cultural Resources, and Appendix C1, Phase 1 Cultural Resource Assessment, of the Draft EIR.

2. Hazards and Hazardous Materials – Potentially Contaminated Soil

(A) Impact Summary

As discussed on pages IV.F-29-32 of Section IV.F, Hazards and Hazardous Materials, of the Draft EIR, the Project would require excavation to a depth of approximately 38 feet. Subsurface investigation of exposed areas of the Project Site did not discover any contaminated soils beyond any thresholds of significance. However, as a majority of the Site is developed, not all of the Site's soil conditions could be explored. Historical uses such as vehicle repair and truck washing indicate that there may be some contaminated soils in areas that cannot yet be tested. As such, Project impacts related to contaminated soils would be potentially significant without mitigation.

(B) Project Design Features

No specific Project Design Features are proposed with regard to hazards and hazardous materials.

(C) Mitigation Measures

HAZ-MM-1 Following demolition of on-site structures and prior to redevelopment of the Project Site, the Applicant shall retain a qualified environmental professional to perform a Supplemental Phase II Subsurface Site Investigation. The Supplemental Phase II Subsurface Site Investigation shall focus on soils in those areas that were identified as inaccessible during the Phase II Subsurface Site Investigation: the areas of the on-site wastewater clarifier, auto repair floor pit, and wastewater separator structures. In addition, due to the low level of petroleum hydrocarbons reported at B2 at 10 feet below ground surface (bgs), the Supplemental Phase II Subsurface Site Investigation shall also include the area of the former truck wash rack. In the event that soils contaminated by petroleum products or other hazardous chemicals are encountered during the investigation, a qualified environmental professional shall be retained to oversee the proper characterization and disposal of waste and remediation of impacted soil and/or materials, as necessary.

HAZ-MM-2 Prior to the commencement of soil-disturbing activities, the Applicant shall retain a qualified environmental professional to prepare a Soil Management Plan for review and approval by the City of Los Angeles Department of Building and Safety. Soil-disturbing activities include excavation, grading, trenching, utility installation or repair, and other human activities that may potentially bring contaminated soil to the surface. The approved Soil Management Plan shall be implemented during soil-disturbing activities on the Project Site and shall establish policies and requirements for the testing, management, transport, and disposal of soils. The Soil Management Plan shall describe specific soil-handling controls required to assure compliance with local, State and federal overseeing agencies, as well as to prevent unacceptable exposure to contaminated soil and prevent the improper disposal of contaminated soils, if encountered.

(D) Finding

Pursuant to PRC Section 21081(a)(1), the City finds that changes or alterations have been required in, or incorporated into, the Project which mitigate or avoid the potential significant effects on the environment.

(E) Rationale for Finding

As discussed on pages IV.F-29 through IV.F-31 in Section IV.F, Hazards and Hazardous Materials, of the Draft EIR, and Appendices G1, Phase I Environmental Site Assessment, and G2, Phase II Subsurface Investigation, of the Draft EIR, while soils analysis was conducted for portions of the Project Site, some portions were inaccessible as a majority of the Site is developed and occupied with office and garage/storage uses. The historic uses of the Project Site may have contaminated the soil. The Project would require excavation across the Project Site to a depth of 38 feet to accommodate subterranean parking levels and approximately 75,200 cubic yards of soil would be exported from the Project Site. As such, due to the proposed excavation activities, past uses of the Project Site for vehicle repair and truck washing, and limited access to investigate the subsurface conditions in some on-site locations, the Project has the potential to uncover hazardous soil conditions that may create a significant hazard to the public or the environment. Therefore, additional soils testing would be required after demolition of the existing structures and surface parking lot to identify and define the extent of potential subsurface contamination from the on-site wastewater clarifier, auto repair floor pit, several wastewater separator structures, and the former truck wash rack.

In order to mitigate the potentially contaminated soils that may be encountered during excavation activities, Mitigation Measure HAZ-MM-1 requires that a qualified environmental professional conduct a Supplemental Phase II Subsurface investigation after demolition of the existing structures and surface parking, and prior to any other development activities, to determine if there are any contaminated soils the areas of the on-site wastewater clarifier, auto repair floor pit, and wastewater separator structures, in addition to the area of the former truck wash rack. Mitigation Measure HAZ-MM-2 requires that a qualified environmental professional prepare a Soils Management Plan prior to commencement of soil-disturbing activities, including excavation, grading, trenching, utility installation or repair, and other human activities that may potentially bring contaminated soil to the surface. The Soil Management Plan, which would be submitted to the City for review and approval, shall establish policies and requirements for the testing, management, transport, and disposal of soils, describe specific soil-handling controls required to assure compliance with local, State and federal overseeing agencies, as well as to prevent unacceptable exposure to contaminated soil and prevent the improper disposal of contaminated soils, if encountered. Implementation of these two Mitigation Measures would reduce the Project's potential impacts related to contaminated soils to less than significant. As discussed on pages IV.F-37 through IV.F-38 of the Draft EIR, since the Project's impacts to hazards and hazardous materials related to contaminated soil handling and disposal would be less than significant with implementation of Mitigation Measures HAZ-MM-1 and HAZ-MM-2, the Project's contribution to cumulative hazards and hazardous materials impacts would not be cumulatively considerable. Therefore, Project-level and cumulative impacts to hazards and hazardous materials associated with contaminated soils would be less that significant with mitigation.

(F) Reference

See Section IV.F, Hazards and Hazardous Materials, and Appendices G1, Phase I Environmental Site Assessment, and G2, Phase II Subsurface Investigation, of the Draft EIR, and Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR.

3. Hydrology and Water Quality – Water Quality Standards and Water Quality Control and Sustainable Groundwater Management Plans - Construction

(A) Impact Summary

As discussed on pages IV.G-23-25, IV.G-37-38 and IV.G-40-41 in Section IV.G, Hydrology and Water Quality, of the Draft EIR, the Project would require excavation to a depth of approximately 38 feet. Subsurface investigation of exposed areas of the Project Site did not discover any contaminated soils beyond any thresholds of significance. However, as some of the areas are currently developed and occupied, not all the Project Site could be explored for soil conditions. Historical uses such as vehicle repair and truck washing indicate that there may be some contaminated soils in areas that have not yet been tested. While groundwater is not expected to be encountered at depth less than 78 feet, perched water may be encountered during excavation which would require removal and disposal pursuant to City requirements. Nonetheless, due to the potential for soil contamination, there is a potential that the water quality would be in violation of water quality control standards or in conflict with water quality control and sustainable groundwater management plans. Therefore, Project impacts to surface or groundwater quality would be potentially significant without mitigation if hazardous soil conditions are encountered during construction.

(B) Project Design Features

No specific Project Design Features are proposed with regard to archaeological resources.

(C) Mitigation Measures

HAZ-MM-1 Following demolition of on-site structures and prior to redevelopment of the Project Site, the Applicant shall retain a qualified environmental professional to perform a Supplemental Phase II Subsurface Site Investigation. The Supplemental Phase II Subsurface Site Investigation shall focus on soils in those areas that were identified as inaccessible during the Phase II Subsurface Site Investigation: the areas of the on-site wastewater clarifier, auto repair floor pit, and wastewater separator structures. In addition, due to the low level of petroleum hydrocarbons reported at B2 at 10 feet below ground surface (bgs), the Supplemental Phase II Subsurface Site Investigation shall also include the area of the former truck wash rack. In the event that soils contaminated by petroleum products or other hazardous chemicals are encountered during the investigation, a qualified environmental professional shall be retained to oversee the proper characterization and disposal of waste and remediation of impacted soil and/or materials, as necessary.

HAZ-MM-2 Prior to the commencement of soil-disturbing activities, the Applicant shall retain a qualified environmental professional to prepare a Soil Management Plan for review and approval by the City of Los Angeles Department of Building and Safety. Soil-disturbing activities include excavation, grading, trenching, utility installation or repair, and other human activities that may potentially bring contaminated soil to the surface. The approved Soil Management Plan shall be implemented during soil-disturbing activities on the Project Site and shall establish policies and requirements for the testing, management, transport, and disposal of soils. The Soil Management Plan shall describe specific soil-handling controls required to assure compliance with local, State and federal overseeing agencies, as well as to prevent unacceptable exposure to contaminated soil and prevent the improper disposal of contaminated soils, if encountered.

(D) Finding

Pursuant to PRC Section 21081(a)(1), the City finds that changes or alterations have been required in, or incorporated into, the Project which mitigate or avoid the potential significant effects on the environment.

(E) Rationale for Finding

As discussed on pages IV.G-24-25 in Section IV.G, Hydrology and Water Quality, of the Draft EIR, and Appendices E1, Geotechnical Engineering Investigation, G1, Phase I Environmental Site Assessment, G2, Phase II Subsurface Investigation, and H, Water Resources Technical Report, of the Draft EIR, construction activities that would potentially contribute to pollutant loading in stormwater runoff from the construction site include, but are not limited to, grading/excavation, paving operations, structure construction, demolition and debris disposal, and dewatering operations. According to the Geotechnical Engineering Investigation prepared for the Project, groundwater was encountered during drilling on the Project Site at an approximate depth of 78 feet below the existing grade. However, the historically highest groundwater level reported was on the order of 84 feet below grade. The Project's excavation for proposed subterranean parking garages is expected to extend to a depth of 38 feet below ground surface, which would be well above the groundwater level and is not expected to encounter groundwater. Nonetheless, perched water zones can possibly be countered during excavation in areas where borings were not drilled. Should perched groundwater be encountered, it would be directed to a dewatering system and discharged in accordance with all applicable rules and regulations regarding discharges of groundwater.

As discussed on pages IV.F-29 through IV.F-31 and IV.F-38 in Section IV.F, Hazards and Hazardous Materials, of the Draft EIR, excavation activities for the

Project may include the removal of an underground clarifier tank previously associated with a truck washing facility that operated on the Project Site. Although soil testing conducted near the clarifier tank location did not identify contaminants in soil samples collected, as shown in the Phase II Subsurface Investigation, the extent of any potential subsurface contamination from the on-site wastewater clarifier, auto repair floor pit, several wastewater separator structures, and the former truck wash rack associated with previous uses on the Project Site could not be confirmed due to current uses on the Project Site. However, implementation of Mitigation Measure HAZ-MM-1, which requires a Supplemental Phase II Subsurface Site Investigation following demolition, and Mitigation Measure HAZ-MM-2, which requires a Soil Management Plan prior to soil-disturbing activities, would address any potential hazardous soil conditions encountered during construction.

As further discussed therein, during construction, the Project would be required to develop a SWPPP emphasizing BMPs to prevent or reduce the discharge of pollutants. The SWPPP would be carried out in compliance with the State Water Resources Control Board (SWRCB) requirements and would be subject to review by the City for compliance with the LID Handbook. Additionally, Project construction activities would occur in accordance with LAMC grading/excavation permit regulations. Based on the above, although the Project would be required to comply with the SWRCB and City regulations, Project impacts to surface or groundwater quality would be potentially significant without mitigation if hazardous soil conditions are encountered during construction. However, with implementation of Mitigation Measures HAZ-MM-1 and HAZ-MM-2, potentially significant impacts to water quality would be reduced to less than significant through identification of contaminants, if any, and a Soils Management Plan for the removal and disposal of any contaminated soil that is encountered.

Additionally, as discussed on pages IV.G-37 through IV.G-39 in Section IV.G, Hydrology and Water Quality, of the Draft EIR, due to the potential for encountering contaminated soils, the Project would potentially conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The applicable plans for the Project Site are the Los Angeles Basin Plan and the Sustainable Groundwater Management Act of 2014 (SGMA). As further discussed therein, construction activities that would potentially contribute to pollutant loading in storm water runoff from the construction site include, but are not limited to, grading/excavation, paving operations, structure construction, demolition and debris disposal, and dewatering operations. Should perched groundwater be encountered during excavation, it would be directed to a dewatering system and discharged in accordance with all applicable rules and regulations. As discussed in Section IV.F, Hazards and Hazardous Materials, of the Draft EIR, although subsurface investigations completed to date have not detected hazardous soil conditions, access was limited due to current development at the Project Site. As such, although the Project would be required to comply with SWRCB and City regulations, Project impacts related to conflicts with the Los Angeles Basin Plan and SGMA would be potentially significant without mitigation if hazardous soil conditions are encountered during construction. However, with implementation of Mitigation Measures HAZ-MM-1 and HAZ-MM-2, potentially significant impacts to applicable water quality control and sustainable groundwater management plans would be reduced to less than significant.

As detailed in Section III, Environmental Setting, of the Draft EIR, there are a total of 137 Related Projects that propose varying levels of development, redevelopment, or modification to existing land uses or structures in the vicinity of the Project Site. As discussed on pages IV.G-40 through IV.G-41 in Section IV.G, Hydrology and Water Quality of the Draft EIR, stormwater runoff from most urban development sites has the potential to introduce pollutants into the stormwater system. Given the similar types of land uses proposed by the Related Project, anticipated and potential pollutants generated by the Related Projects could include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. Such projects located in the City, as well as throughout the Los Angeles River Watershed, would be required to comply with NPDES permit requirements during both construction and operations, such as development and implementation of a SWPPP during construction. Like the Project, the Related Projects would be anticipated to involve the use, handling, storage, and disposal of similar potentially hazardous materials and wastes that would be released into the groundwater during construction. However, as with the Project, the Related Projects would be required to comply with all applicable federal, State, and local requirements concerning the handling, storage and disposal of hazardous waste, which would reduce the potential for the release of contaminants into groundwater. Other potential effects to groundwater quality, including from underground storage tanks and oil wells, are site specific and would be addressed by each individual Related Project. Similar to the Project, all Related Projects would be subject to compliance with hydrology and water regulations and implement BMPs to manage hydrologic resources. However, with adherence to applicable regulations and implementation of Mitigation Measures HAZ-MM-1 and HAZ-MM-2, Project construction potential impacts to water quality and water quality control and sustainable groundwater maintenance plans would be less than significant. As such, the Project's contribution to water quality impacts would not be cumulatively considerable. Therefore, Project-level and cumulative impacts would be less than significant with mitigation.

(F) Reference

See Section IV.G, Hydrology and Water Quality, and Appendices E1, Geotechnical Investigation, and H, Water Resources Technical Report, of the Draft EIR.

VI. Significant and Unavoidable Impacts

The Final EIR determined that the environmental impacts set forth below are significant and unavoidable. In order to approve the Project with significant unmitigated impacts, the City is required to adopt a Statement of Overriding Considerations, which is set forth in Section XII below. No additional environmental impacts other than those identified below will have a significant effect or result in a substantial or potentially substantial adverse effect on the environment as a result of the construction or operation of the Project. The City finds and determines that:

a) All significant environmental impacts that can be feasibly avoided have been eliminated, or substantially lessened through implementation of the project design features and/or mitigation measures; and
b) Based on the Final EIR, the Statement of Overriding Considerations set forth below, and other documents and information in the record with respect to the construction

and operation of the Project, all remaining unavoidable significant impacts, as set forth in these findings, are overridden by the benefits of the Project as described in the Statement of Overriding Considerations for the construction and operation of the Project and implementing actions.

1. Noise – Construction Noise and Vibration Impacts

(A) Impact Summary

(1) Construction Noise – Off-road Construction Noise

As discussed on pages IV.I-33-36 and VI.I-51-54 in Section IV.I, Noise, of the Draft EIR, Project off-road construction would have noise on some, but not all, sensitive receptors in the Project area. Off-road construction activities required to construct the Project would exceed the recommended noise threshold of 75 A-weighted decibels (dBA) at the closest sensitive use (the roof-mounted trailer at 428 South Hewitt Street). In addition, construction operations would exceed the existing ambient exterior noise levels by 5 dBA or more at the property line for 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. Project Design Features NOI-PDF-1 through NOI-PDF-5 would alleviate some of the noise from construction equipment. However, there are no feasible mitigation measures to reduce the temporary construction noise impacts to a less-than-significant level due to either: the infeasibility of constructing a sound barrier that would block the line of site between construction of the higher floors of the Office Building and the receptors; the lack of space for a barrier along the southern property line due to the presence of existing buildings adjacent to the limits of the construction activity; or, Mitigation Measure MM-NOI-1 not fully addressing impacts at 428 South Hewitt St. and requiring the property owner's consent to place a sound barrier around the roof-mounted trailer, which consent may not be given. Therefore, the impact would remain significant and unavoidable at all three locations (428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St).

(2) Construction Noise – Construction Composite Noise

As discussed on pages IV.I-38 and IV.I-52 in Section IV.I, Noise, of the Draft EIR, the combined effect of the Project's off-road construction equipment and on-road hauling trucks would cause three sensitive receptors to experience noise levels in excess of the 5-dBA noise increase threshold; 428 South Hewitt Street, 442 Colyton Street, and 449 South Hewitt Street. As it is primarily construction noise and not haul truck noise that would influence the composite significant impact, and, as described above, there is no feasible mitigation to reduce at 442 Colyton Street and 449 South Hewitt Street to a less-than-significant level, and as implementation of Mitigation Measure NOI-MM-1 (temporary sound barriers both on-and off-site) would not fully address impacts at 428 South Hewitt Street, and would require another property owner's consent, which consent may not be given, the composite noise impact would remain significant and unavoidable at all three locations (428 South Hewitt Street, 442 Colyton Street, and 449 South Hewitt Street).

(3) Construction Vibration – Structural Damage from Off-road Construction Equipment

As discussed on pages IV.I-55-57 and IV.I-62 through IV.I-63 in Section IV.I, Noise, of the Draft EIR, the closest vibration-sensitive receptors to the Project Site may experience significant vibration that exceeds the building damage threshold of 0.12 inches/second. Mitigation Measures NOI-MM-2, NOI-MM-3, and NOI-MM-4 would require pre-construction surveys, a demolition and shoring plan, and implementation of a structural monitoring program for 418 Colyton St., 424 Colyton St., and 427 South Hewitt St., which would be required to reduce potential vibration damage at these fragile structures. However, because components of these measures require the consent of other property owners, which consent may not be given, the Project-specific structural vibration impacts on the sensitive buildings located at 418 Colyton St., 424 Colyton St., and 427 South Hewitt St. would be significant and unavoidable.

(4) Construction Vibration – Human Annoyance from On-road Haul Route Trucks

As discussed on page IV.I-60 in Section IV.I, Noise, of the Draft EIR, human annoyance from vibrations caused by Project construction trucks would be temporary, intermittent, and limited to when vehicles are traveling within 25 feet of an impacted structure. Nonetheless, as there are no feasible mitigation measures to reduce the potential vibration human annoyance impact from truck traffic along the haul route, the human annoyance vibration impact from on-road construction trucks would be significant and unavoidable.

(5) Cumulative – (Excluding Structural Damage from Off-road Construction Vibration)

As discussed on pages IV.I-63-67 in Section IV.I, Noise, of the Draft EIR, off-road construction activities required to construct the Project would, in combination with the construction of Related Projects, exceed the recommended noise threshold of 75 dBA at the closest sensitive use (the roof-mounted trailer at 428 South Hewitt St.), and construction operations may also exceed existing ambient exterior noise levels by 5 dBA or more at the property line for 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. As there are no feasible mitigation to reduce the impact at 442 Colyton St. and 449 South Hewitt St. to a less-than-significant level, and implementation of Mitigation Measure NOI-MM-1(temporary sound barriers both on-and off-site) would not mitigate impacts at 428 South Hewitt St. to a less-than-significant level during all construction phases, and because it would require another property owner's approval, the cumulative impact would remain significant and unavoidable at all three locations (428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St).

Similarly, as discussed on page IV.I-68 of the Draft EIR, the combined effect of the Project's and Related Projects' off-road construction equipment and on-road hauling trucks would cause three sensitive receptors to experience noise levels in excess of the 5-dBA noise increase; 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. As explained therein, there are no feasible mitigation measures to reduce the impact at these three locations to a less-than-significant level. Therefore, the cumulative composite noise impact would remain significant and unavoidable at all three locations (for 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St.).

As further discussed on page IV.I-70 of the Draft EIR, Related Projects in close proximity to the Project Site may have overlapping hauling routes during the construction period. Therefore, the cumulative vibration impacts resulting related to human annoyance that would result from construction trucks traveling along the anticipated haul routes for the Project in combination with Related Projects in the Project vicinity would be significant. Although this would be temporary, intermittent, and limited to when vehicles are traveling within 25 feet of an impacted structure, as there are no feasible mitigation measures to reduce the potential vibration human annoyance impact, the human annoyance vibration impact would be significant and unavoidable.

(B) Project Design Features

NOI-PDF-1: All capable diesel-powered construction vehicles will be equipped with exhaust mufflers, aftermarket dampening systems, or other suitable noise reduction devices.

NOI-PDF-2: Power construction equipment (including combustion engines), fixed or mobile, will be equipped with state-of-the-art noise shielding and muffling devices (consistent with manufacturers' standards). All equipment will be properly maintained to ensure that no additional noise, due to worn or improperly maintained parts, would be generated.

NOI-PDF-3: Grading and construction contractors will use rubber-tired equipment rather than metal-tracked equipment.

NOI-PDF-4: An on-site construction manager will be responsible for responding to local complaints about construction noise. Notices will be sent to residential units within 500 feet of the construction site and signs will be posted at the construction site that list the telephone number for the on-site construction manager.

NOI-PDF-5: Construction supervisors will be informed of Project-specific noise requirements, noise issues for sensitive land uses adjacent to the Project construction Site, and/or equipment operations to ensure compliance with the required regulations and best practices.

(C) Mitigation Measures

NOI-MM-1 Subject to off-site property owner agreement, a temporary construction barrier on the rooftop of 428 South Hewitt Street, near the edge of the rooftop facing the Project Site shall be erected during the Project demolition and grading phases and when equipment is used on the ground floor during building construction and paving. The barrier shall be least four feet in height and constructed of a material with a Sound Transmission Class (STC) rating of at least STC-30 (such as acoustic panels or sound barrier products) or a transmission loss of at least 20 decibels (dB) at 500 hertz (such as 1/2-inch plywood). In addition to the rooftop barrier, a temporary construction barrier of approximately 300 feet in length and 24 feet in height, located at the eastern edge and southeastern corner of the Project Site, and constructed of a material with a rating of STC-35 or greater (such as acoustic panels or sound barrier products) or providing a transmission loss of at least 25 dB at 500 hertz (such as 3/4-inch plywood), shall be erected during the Project demolition and grading phases and when equipment is used on the ground floor during building construction and paving.

NOI-MM-2 Prior to demolition, the Applicant shall retain the services of a structural engineer or other qualified professional to conduct pre-construction surveys to document the current physical conditions of the following identified vibration-sensitive receptors: 418 Colyton Street, 424 Colyton Street, and 427 South Hewitt Street.

NOI-MM-3 Prior to the issuance of grading permits, the Applicant shall retain the services of a structural engineer or other qualified professional to prepare a demolition and shoring plan to ensure the proper protection and treatment of the properties at 418 Colyton Street, 424 Colyton Street, and 427 South Hewitt Street during construction. The plan shall include appropriate measures to protect these properties from damage due to demolition of existing structures, excavation or other ground-disturbing activities, vibration, soil settlement, and general construction activities. The plan shall be submitted to the Los Angeles Department of City Planning's Office of Historic Resources for review and approval.

NOI-MM-4 Prior to the issuance of grading permits, the Applicant shall retain the services of an acoustical engineer or other qualified professional to develop and implement a structural monitoring program during construction. The performance standards of the structural monitoring program shall include the following:

- Documentation, consisting of video and/or photographic documentation of accessible and visible areas on the exterior of the receptor buildings (refer to NOI-MM-2).
- A registered civil engineer, certified engineering geologist, or vibration control engineer shall review the appropriate vibration criteria for the identified vibration receptors, taking into consideration their age, construction, condition, and other factors related to vibration sensitivity in order to develop additional recommendations for the structural monitoring program.
- Vibration sensors shall be installed on and/or around the identified vibration receptors to monitor for horizontal and vertical movement. These sensors shall remain in place for the duration of excavation, shoring, and grading phases.
- The vibration sensors shall be equipped with real-time warning system capabilities that can immediately alert construction supervisors when monitored vibration levels approach or exceed threshold limits. The registered civil engineer, certified engineering geologist, or vibration control engineer shall determine the appropriate limits.
- Should an exceedance of vibration thresholds occur, work in the vicinity of the affected area shall be halted and the respective vibration receptor shall be inspected for any damage. Results of the

inspection shall be logged. In the event that damage occurs, the damage shall be repaired in consultation with a qualified preservation consultant. In the event of an exceedance, feasible steps to reduce vibratory levels shall be undertaken, such as halting/staggering concurrent activities and utilizing lower-vibratory techniques.

(D) Finding

Pursuant to PRC Section 21081(a)(1), the City finds that changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment. However, these effects have not been reduced to a less than significant level.

Thus, pursuant to PRC, Section 21081(a)(3), the City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the Environmental Impact Report.

(E) Rationale for Finding

(1) Construction Noise – Off-road Construction Noise

As discussed on pages IV.I-33-36 and IV.I-51-54 in Section IV.I, Noise, of the Draft EIR, and in the Noise and Vibration Impact Analysis contained in Appendix J of the Draft EIR, Project construction noise from off-road construction equipment would occur during all phases of construction. As each construction phase would employ the use of different pieces of construction equipment, the noise characteristics of each phase would differ. Table IV.I-7, *Off-Road Construction Equipment Noise Levels*, of the Draft EIR identifies the highest (Lmax) noise levels associated with each phase of construction, the probable equipment fleet, and the extent of use. The potential for construction-related noise to adversely affect nearby sensitive receptors would depend on the location and proximity of construction activities to these receptors. As presented in Table IV.I-7, the highest noise levels generated by Project construction activities would typically range from about 81 to 85 dBA Leq at a distance of 50 feet from the noise source if all equipment for a given phase operated at the Project boundary. These assumptions represent the worst-case noise scenario because construction activities would typically be spread out throughout the Project Site and, thus, some equipment would be farther away from the affected receptors. Additionally, as further explained therein, although noise levels would be reduced by Project Design Features NOI-PDF-1 through NOI-PDF-5, they were not included in the calculations of the Project construction noise levels, because when applied, the numerical reduction cannot be accurately determined. Therefore, the noise levels reported in the Draft EIR for off-road construction are conservative.

As discussed on pages IV.I-34-35 and presented in Table IV.I-8, *Off-Road Construction Equipment Noise Levels at Off-Site Sensitive Uses*, of the Draft EIR, the closest off-site sensitive receptor to the Project Site is a roof-mounted trailer located at 428 South Hewitt St. This use is approximately 80 feet from the closest

Project perimeter. At this distance, construction noise levels may reach 81 dBA for a one-hour Leq, which would exceed the noise threshold of 75 dBA and construction noise would exceed existing ambient exterior noise levels by 5 dBA or more at the property line. This analysis is shown in Table IV.I-9, *Estimate of Off-Road Construction Equipment Noise Levels at Existing Off-Site Sensitive Receptors*. As such, although construction would be temporary and limited by the LAMC to the hours of 7:00 a.m. and 9:00 p.m. on weekdays and 8:00 a.m. to 6:00 p.m. on Saturdays and not during noise sensitive hours, a potentially significant impact would occur at the roof-mounted trailer at 428 South Hewitt St. Additionally, construction operations lasting more than 10 days may also exceed existing ambient exterior noise levels by 5 dBA or more at the rooftop trailer at 428 South Hewitt St., the live/work land use at 442 Colyton St., and the live/work use at 449 South Hewitt St. thereby resulting in a potentially significant impact at all three locations. Therefore, noise generated by off-road construction equipment at 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. would be significant without mitigation.

As discussed on pages IV.I-51-54 of the Draft EIR, the most effective method of noise mitigation is the construction of a temporary noise barrier that blocks the line-of-sight between the source of the noise and the sensitive receptor. However, there is no technically feasible way to erect a temporary barrier from the ground to the height of the of the Project rooftop. The roof-mounted trailer at 428 South Hewitt St. is approximately 24 feet above ground level. Mitigation Measure NOI-MM-1 requires the construction of a rooftop barrier with approval of the property owner to reduce construction noise levels at this location. However, the barrier on the rooftop would require the property owner's consent which may not be granted. Additionally, to address noise during the demolition and grading phases as well as other construction activity which would only occur at the ground floor and second floor and paving phases of construction, Mitigation Measure NOI-MM-1 also requires the construction of an approximately 300 feet in long and 24 feet high construction barrier located at the eastern edge and southeastern corner of the Project Site. However, as shown on Table IV.I-18, *Mitigated Off-Road Construction Equipment Noise Levels at 428 South Hewitt Street,* which presents mitigated construction equipment noise levels at 428 South Hewitt St. with an on-site ground floor barrier, an off-site roof top barrier, and both the on-site ground floor barrier and the off-site rooftop barrier together, Mitigation Measure NOI-MM-1 would not reduce noise levels below the level of significance at 428 South Hewitt St. during building construction of the second through fifth floors and during paving of the second through fifth floors. In addition, at 442 Colyton St. and 449 South Hewitt St., it would be infeasible to construct a noise barrier within the Project Site that would block the line of sight between construction of the higher floors of the Office Building and the receptors, and there is also insufficient space for a barrier along the southern property line due to the presence of existing buildings adjacent to the limits of demolition, excavation, and construction activity. As such, the three sensitive uses located at 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. would experience noise levels in excess of the 5-dBA noise increase threshold as a result of the Project's construction activities. Mitigation Measure NOI-MM-1 would reduce construction noise to the extent feasible, but noise levels would remain above the threshold at 428 South Hewitt St. Additionally, for the reasons stated above, mitigation is not available for 442 Colyton St. and 449 South Hewitt St. Therefore, Project noise impacts associated with off-road construction activities at these three sensitive receptor locations would be significant and unavoidable.

(2) Construction Noise – Construction Composite Noise

As discussed on page IV.I-38 and IV.I-52 in Section IV.I, Noise, of the Draft EIR, and in Appendix J, Noise and Vibration Impact Analysis, of the Draft EIR, the Project's composite construction noise impact from the combined effect of on-road and off-road noise sources at three sensitive receptor locations (428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St.) would be significant. Table IV.I-19, *Mitigated Composite Construction Noise Levels at 428 South Hewitt Street*, shows the mitigated composite construction noise levels at 428 South Hewitt St. with an on-site ground floor barrier (located at the eastern edge and southern corner of the Project Site), an off-site roof top barrier located at 428 South Hewitt St., and with both the on-site ground floor barrier and the off-site rooftop barrier together, and noise from on-road hauling trips in all three scenarios. Implementation of Mitigation Measures NOI-MM-1, discussed above, would reduce the composite noise impact at 428 South Hewitt St. but can neither be assured to be implemented nor does it reduce all construction impacts to a less-than-significant level. Moreover, mitigation is not available for the impacts at 442 Colyton St. and 449 South Hewitt St., because it would be infeasible to construct a noise barrier within the Project Site that would block the line of site between construction of the higher floors of the Office Building and the receptors, and there is also insufficient space for a barrier along the southern property line due to the presence of existing buildings adjacent to the limits of demolition, excavation, and construction activity. As such, the Project's construction composite noise impacts at 428 South Hewitt St., 442 Colyton St. and 449 South Hewitt St. would be significant and unavoidable.

(3) Construction Vibration – Structural Damage from Off-road Construction Equipment

As discussed on pages IV.I-55-57 and IV.I-62-63 in Section IV.I, Noise, of the Draft EIR, and in the Noise and Vibration Impact Analysis contained in Appendix J of the Draft EIR, Project construction activities can potentially cause structural damages to buildings extremely susceptible to vibrations category which have an impact threshold of 0.12 inches/second peak particle velocity (PPV). Table IV.I-20, *Estimated Vibration Levels During Project Construction*, provides the vibration levels predicted to be generated by the equipment fleet to be utilized during Project construction and Table IV.I-21, *Minimum Distances for Vibration Building Damage,* presents the minimum distances for potential structural damage. When construction equipment is within these distances the PPV level would exceed thresholds and could have a vibratory impact on buildings. There are several buildings adjacent to the Project Site that are of such an age that the Draft EIR considered them sensitive to the structural effects of vibration: 418 Colyton St., 424 Colyton St., and 427 South Hewitt St. The buildings at 424 Colyton St. and 437 South Hewitt St. are also contributors to the potential Downtown Industrial Historic District. As shown in Table IV.I-20, these structures may experience vibration that exceeds the structural damage threshold of 0.12in/sec PPV if equipment is operated at the shared property line.

As discussed on page IV.I-62, to reduce the Project's impact to the adjacent buildings Mitigation Measures NOI-MM-2, NOI-MM-3, and NOI-MM-4 would be incorporated into the Project. Mitigation NOI-MM-2 requires, prior to the issuance of a demolition permit, that a structural engineer or other qualified profession prepare a pre-construction survey to document the current physical conditions of the adjacent sensitive buildings. Mitigation NOI-MM-3 requires, prior to the issuance of grading permits, that a structural engineer or other qualified professional prepare a demolition and shoring plan to ensure the proper protection and treatment of the properties at 418 Colyton St., 424 Colyton St., and 427 South Hewitt St. during construction. Mitigation Measure NOI-MM-4 requires, prior to the issuance of grading permits, that an acoustical engineer or other qualified professional develop and implement a structural monitoring program during construction and sets forth the performance standards of the structural monitoring program. All three of these Mitigation Measures are needed to reduce the Project's off-road construction impacts to the adjacent sensitive structures to a less-than-significant level. However, because these Mitigation Measures require the consent of other property owners, who may not agree to implement all components of all three measures, implementation of these Mitigation Measures cannot be guaranteed. Thus, it is conservatively concluded that vibration impacts related to potential building damage on the structures located at 418 Colyton St., 424 Colyton St., and 427 South Hewitt St. would be significant and unavoidable.

(4) Construction Vibration – Human Annoyance from On-road Haul Route Trucks

As discussed on pages IV.I-57-60 and IV.I-63 in Section IV.I, Noise, of the Draft EIR, and in the Noise and Vibration Impact Analysis contained in Appendix J of the Draft EIR, with respect to potential on-road vibration impacts, the Federal Transportation Administration's (FTA) Transit Noise and Vibration Impact Assessment identifies residential and institutional uses as sensitive receptors. Pursuant to the FTA guidance, vibration levels exceeding 72 vibration decibels (VdB) for residential uses and 75 VdB for institutional uses would be considered a human annoyance impact from on-road vibrations. While Table IV-23, *Haul Route Truck Vibration Impact*, shows that the estimated vibration impact associated with human annoyance from on-road trucks would not exceed the 72 VdB significance criteria for the vibration-sensitive uses nearest to the Project Site, along the full extent of the haul route there may be vibration-sensitive receptors within 25 feet of the center of the of the nearest travel lane at which vibration would exceed the 72 VdB significance criteria for residential uses and would potentially exceed the 75 VdB significance criteria for institutional land uses. Therefore, the Draft EIR conservatively concluded that the Project's construction activities related to use of the haul route could result in the exposure of persons to excessive groundborne vibration annoyance levels. As such, vibration impacts with respect to human annoyance resulting from construction trucks traveling along the anticipated haul routes would be significant without mitigation. As further indicated therein, there are no mitigation measures that can reduce the vibration impacts of on-road construction vehicles. Therefore, the Project's vibration impacts associated with on-road haul route trucks would be significant and unavoidable.

(5) Cumulative

As discussed on pages IV.I-63-68 and IV.I-70-78 in Section IV.I, Noise, of the Draft

EIR, and in the Noise and Vibration Impact Analysis contained in Appendix J of the Draft EIR, while there are a 137 Related Projects identified in Chapter III, Environmental Setting, of the Draft EIR, cumulative noise and vibration impacts were only analyzed for the Project and those Related Projects in sufficient proximity to the Project Site to result in potential combined noise or vibration impacts related to construction activities. That is, the noise or vibrations emanating from the Project Site and the Related Project site would need to be near enough to the sensitive receptor to combine for a cumulative effect. Construction noise can contribute to a cumulative noise impact for sensitive receptors located midway between two construction sites. Pursuant to the L.A. CEQA Thresholds Guide, noise from construction activities would normally affect sensitive receptors that are located less than 500 feet from the construction sites. Based on the 500-foot distance, the cumulative construction noise impacts analysis in the Draft EIR focused on Related Projects that are located within 1,000 feet of the Project Site, assuming that the sensitive receptor is located halfway between the Project Site and a Related Project. The Related Projects located in closest proximity to the Project Site are listed in Table IV.I-24, *Cumulative Projects within Proximity of the Project Site*.

As to cumulative noise impacts related to off-road construction activities, as described on pages IV.I-63-67, the nearest noise sensitive use to Related Projects 37 and 94 is the rooftop-mounted trailer at 428 South Hewitt Street, located 80 feet southeast of the Project Site and directly south of Related Project 94. The Related Projects are closer to this sensitive use than the Project and would impact this receptor to a greater extent than the Project. Cumulative construction impacts could create a significant impact for the sensitive use at 428 South Hewitt St. and could occur regardless of Project construction. Nevertheless, as Project construction would result in a significant and unavoidable Project-level impact during construction for 428 South Hewitt St., the Project's contribution to the cumulative impact would also be significant. As with the Project-level impact, there are no feasible mitigation measures to reduce this cumulative impact to a less-than-significant level due to the rooftop location of the trailer at 428 South Hewitt St., the need for owner approval for implementation of Mitigation Measure NOI-MM-1 (on- and off-site noise barriers) and the fact even with the noise barriers delineated in Mitigation Measure NOI-MM-1, the noise level at 428 South Hewitt St. would still exceed the thresholds of 75 dB and a 5 dB increase. As such, the Project's contribution to a cumulative noise impact would be considerable. Therefore, the Project's cumulative on-road construction noise on the sensitive receptor at 428 South Hewitt St. would be significant and unavoidable.

Additionally, as discussed on page IV.I-67, as to the residential uses south of the Project Site at 442 Colyton St. and 449 South Hewitt St., the three closest Related Projects (Related Projects 85, 137, and 94) to these two receptors could result in a cumulatively significant construction noise level, which would occur regardless of Project construction. However, as previously described, the Project's construction noise impact at these two receptors would be significant and unavoidable. As such, the Project's contribution to construction noise at these two receptors would be cumulatively considerable. Therefore, the Project's cumulative on-road construction noise impact on the sensitive receptors at 442 Colyton St. and 449 South Hewitt St. would be significant and unavoidable.

As further indicated on page IV.I-67, sensitive receptors would potentially be affected by composite construction noise from simultaneous activities at the Project and Related Project sites. The Project-level composite construction noise impact due to the combined effect of on- and off-road construction noise sources on the sensitive receptors located at 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt St. would be significant and unavoidable since noise levels would remain above 75 dB and would exceed the 5-dBA increase threshold even with implementation of Mitigation Measure NOI-MM-1 (on- and off-site noise barriers). As such, the Project's contribution to the combination of construction and haul truck noise at the three identified sensitive uses would be cumulatively considerable. Therefore, the Project's cumulative composite noise impacts to the sensitive receptors at 428 South Hewitt St., 442 Colyton St. and 449 South Hewitt St. would be significant and unavoidable.

(As to the other sensitive receptors near the Project Site which would experience less than significant noise impacts, see the Noise discussion above in Section V of these Findings.) With regard to human annoyance impacts related to cumulative on-road construction related activities, as discussed on page IV.68, sensitive receptors could be affected by multiple projects if a roadway is used for truck hauling by multiple projects simultaneously. The Project and Related Projects 94 and 37, if construction activities overlap, could, therefore, create a cumulative impact related to human annoyance from construction vibrations since haul trucks and other construction vehicles may potentially generate human annoyance vibration impacts to sensitive uses along their haul routes that exceed the adopted 72 VdB and 75 VdB human annoyance thresholds. Because these vehicles would potentially travel within 25 feet of a structure with uses that are sensitive to experiencing human annoyance from vibration, the vibration human annoyance impacts would be cumulatively considerable. These trucks or construction vehicles from the Related Projects would increase the number of vibration events that exceed the human annoyance threshold per day above those that would occur with the Project alone. As there are no mitigation measures that can reduce the vibration impacts of on-road construction vehicles, the Project's contribution to cumulative vibration impacts to sensitive receptors along the haul route would be consideration. As such, the Project's cumulative human annoyance vibration impacts to sensitive receptors would be significant and unavoidable.

(F) Reference

See Section IV.I, Noise, and Appendix J, Noise and Vibration Impact Analysis, of the Draft EIR.

VIII. Alternatives

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that could substantially reduce or avoid the significant impacts of a project while also meeting the project's basic objectives. An EIR must identify ways to substantially reduce or avoid the significant effects that a project may have on the environment (PRC Section 21002.1). Accordingly, the discussion of alternatives shall focus on alternatives to a project or its location which are capable of avoiding or substantially reducing any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. The alternative analysis included in the Draft EIR, therefore, identified a reasonable range of Project alternatives focused on avoiding or substantially reducing the Project's significant impacts.

(A) Summary of Findings

Based upon the following analysis, the City finds, pursuant to CEQA Guidelines Section 15091, that no feasible alternative or mitigation measure will substantially lessen any significant effect of the Project, reduce the significant unavoidable impacts of the Project to a level that is less than significant, or avoid any significant effect the Project would have on the environment.

(B) Project Objectives

An important consideration in the analysis of alternatives to the Project is the degree to which such alternatives would achieve the objectives of the Project. Chapter II, *Project Description*, of the Draft EIR, as modified in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, sets forth the Project Objectives defined by the Applicant and the Lead Agency. The Project objectives of the Project are as follows:

1. Redevelop low-intensity parcels in the Arts District with a mix of commercial land uses at an increased FAR that provide an increased variety of job opportunities, thereby maximizing the creation of permanent jobs and economic investment in the City of Los Angeles and the Arts District.
2. Introduce a range of high quality commercial spaces at the appropriate scale and intensity that would supply the increasing demand for office, incubator space, and innovative campus uses in the Arts District; contribute to the demand for office space; and provide neighborhood resources for the growing residential neighborhood within the Arts District.
3. Support the growing community of creative and commercial uses and bourgeoning residential population in close proximity with additional office and restaurant uses.
4. Represent the character of the Arts District by maintaining the bow truss structure and constructing a complementary multi-level building that incorporates unique exterior architectural treatments and publicly accessible open space that acts as a visual anchor.
5. Through the provision of the design, scale, and height of the Office Building, encourage pedestrian activity and commerce, and create open space opportunities, with ground floor, street-facing commercial spaces; a landscaped courtyard that would be open to public use and available for community and private events; a landscaped passageway that connects South Hewitt and Colyton Streets and promotes pedestrian access throughout the Project's street level; and balconies and a rooftop deck for the Project's office tenants.
6. Promote transit and mobility objectives and reduce VMT by providing mixed-use commercial and office spaces proximate to existing and planned DTLA residential land uses and public transit facilities, including the Metro L (Gold) Line Little Tokyo/Arts District Station located at 1stand Alameda Streets, as well as the Metro and DASH bus stops located near East 4th and South Hewitt Streets.

7. Encourage the use of alternative forms of transportation through the provision of bicycle parking and showers; charging stations for electric vehicles; and preferential parking for fuel-efficient, low-emission, and carpool/vanpool vehicles.
8. Reduce the consumption of energy and water and minimize impacts on the environment through sustainable design features.

C. Alternatives Analyzed

1. Alternative 1: No Project Alternative

(A) Description of Alternative

As discussed on page VI-24 in Chapter VI, Alternatives, of the Draft EIR, the No Project Alternative (Alternative 1) assumes that no new development would occur within the Project Site. The Project Site would remain developed with the existing 7,800-square-foot, bow truss building that fronts Colyton St., with its 1,000-square-foot storage space; the existing 3,515-square-foot office space on South Hewitt St., with its 2,515-square-foot garage/storage space; and the 39,751 square feet of surface parking lots would continue to operate under the current M3-1-RIO (Heavy Industrial, Height District No. 1, River Improvement Overlay) zoning.

(B) Impact Summary

As discussed on pages VI-25 through VI-41 in Chapter VI, Alternatives, of the Draft EIR, no new development would occur on the Project Site under Alternative 1, the existing structures and surface parking lot would remain, and no new improvements would be developed. Although Alternative 1 would avoid the temporary significant and unavoidable construction noise and vibration impacts of the Project related to Project-level and cumulative off-road construction noise, Project-level and cumulative composite construction noise, Project-level vibration (building damage) from off-road construction activities, and Project-level and cumulative vibration (human annoyance) from on-road construction vehicles, it would not implement the beneficial impacts of the Project related to water quality and drainage. Thus, although Alternative 1 would result in less impacts than the Project for the majority of environmental topics analyzed in the Draft EIR, as summarized in Table VI-3, *Summary Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, included in Section VI, Alternatives, of the Draft EIR, due to the proposed increase in landscaping on the Project Site and proposed infiltration BMPs proposed by the Project, the Project would reduce the Project Site's existing impervious coverage of 98.5 percent to 94 percent, which would improve water quality, as well as slightly reduce the amount of runoff and flow rate from the Project Site. Moreover, since Alternative 1 would not include any new development, it would not meet the Project's underlying purpose to revitalize the Project Site by developing a high-quality mixed-use development that includes publicly accessible open spaces, nor achieve any of the Project Objectives.

(C) Finding

Pursuant to PRC Section 21081(a)(3), the City finds that the specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(D) Rationale for Finding

As described on pages VI-25 through VI-41 of the Draft EIR, Alternative 1 would generally reduce the Project's environmental impacts due to lack of any construction and avoid the Project's significant and unavoidable construction noise and vibration impacts, and, therefore, is environmentally superior to the Project. However, Alternative 1 would not improve existing conditions related to water quality and drainage since it would not implement BMPs which would be implemented under the Project. With implementation of regulatory requirements, runoff volumes from the Project Site would decrease as compared to Alternative 1. Thus, although, Alternative 1 would result in no impact (no change) to drainage patterns on the Project Site during operation, its impacts would be slightly greater than the Project's less-than-significant impact, as the Project would reduce runoff volume. Moreover, Alternative 1 would not meet the Project's underlying purpose or any of the Project Objectives.

(E) Reference

Refer to Section VI, Alternatives, of the Draft EIR.

2. Alternative 2: Current Zoning and Land Use Designation Alternative

(A) Description of Alternative

As discussed on pages VI-41 through VI-42 in Chapter VI, Alternatives, of the Draft EIR, and page III-50-55 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, the Current Zoning and Land Use Designation Alternative (Alternative 2) would develop a Project that is consistent with the current M3-1-RIO zoning and Heavy Industrial land use designation for the Project Site. The Development would include demolition of the office space on South Hewitt St. and its associated garage/storage space, (6,030 square feet combined), the 1,000-square-foot storage space associated with the 7,800-square-foot building formerly occupied by the A+D Museum on Colyton St., and 39,751 square feet of surface parking lots. Grading activities would be comprised of minor surface preparation and would require 5,205 cubic yards of exported soils. Alternative 2 would develop 8,149 square feet of new restaurant space and 70,039 square feet of new office space and would retain the existing 7,800-square-foot, bow truss building formerly occupied by the A+D Museum. Alternative 2 would also provide 178 parking spaces, all above grade in two levels. The proposed structure for Alternative 2 would reach a maximum height of 108.5 feet, including five stories (two of which are the parking levels) above grade. The total floor area of Alternative 2 would be 85,988 square feet, a net increase in floor area of 71,158 square feet over existing conditions, with an FAR of 1.5:1. The design of Alternative 2's office building would be similar to that of the Project, incorporating design elements that reflect the character of the Arts District, as well as modern elements. No open space would be provided with Alternative 2, nor would it provide a pedestrian passageway connecting Colyton St. and South Hewitt St.

(B) Impact Summary

As discussed on pages VI-41 through VI-94 in Chapter VI, Alternatives, of the Draft EIR, and pages III-50 through III-55 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 2 would result in a 78 percent reduction in development which would reduce the construction period from 30 months to 22 months, thereby reducing the duration of the significant impacts compared to the Project and reducing the Project's less-than-significant impacts as summarized in Table VI-3, *Summary Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, included in Section VI, Alternatives, of the Draft EIR. However, as discussed on pages VI-65-67 and VI-69-71, Alternative 2 would not avoid the Project's significant and unavoidable construction noise and vibration impacts as it would require similar construction equipment and haul truck routes, although the duration of construction and amount of soil exportation would be reduced. As such, Alternative 2's construction noise and vibration impacts would be significant and unavoidable but less than the Project's significant and unavoidable impacts. Also, as discussed on pages VI-78 through VI-81 and shown in the LADOT VMT Calculator Version 1.3 outputs provided in Appendix P, Alternatives Technical Documentation of the Draft EIR, Alternative 2 would result in an average work VMT per employee of 7.6, which does not exceed the significance threshold for the Central APC (which is 7.6 work VMT per employee) but is higher than the Project's work VMT per employee of 7.2. Therefore, Alternative 2's transportation impacts related to VMT would be less than significant but greater than the Project's less-than-significant impact. Additionally, by generating less jobs than the Project and not including public open space or pedestrian connectivity between Colyton St. and South Hewitt St., Alternative 2 would not be consistent with the 2020-2045 RTP/SCS or State and City plans related to development within a HQTA and TPA, pedestrian amenities and safety, and circulation to the same extent as the Project. Alternative 2 would also create a less-than-significant impact related to geometric design hazards, but greater than the Project's less-than-significant impact since Alternative 2 would not provide a pedestrian passageway between Colyton and South Hewitt Streets.

(C) Finding

Pursuant to PRC Section 21081(a)(3), the City finds that the specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(D) Rationale for Finding

As discussed on pages VI-41-94 in Chapter VI, Alternatives, of the Draft EIR, and the Alternatives Technical Document contained in Appendix P of the Draft EIR, and on pages III-50-55 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 2 would result in a total floor area of 85,988 square feet, as compared to a total floor area of 343,925 square feet with the Project, resulting in a 78 percent reduction in the scale of the development and generating 282 jobs as compared to 1,282 jobs with the Project. Alternative 2 would result in similar impacts as the Project, although, due to the reduced scale of development, the relative impacts of Alternative 2 would generally be less than, or similar to, the less-than-significant impacts of the Project. As Alternative 2 would be developed in accordance with the existing LAMC Zoning and Community Plan land use designation for the Project Site, it would not require the General Plan Amendment, Vesting Zone Change, Height District Change, or Conditional Use approval to permit a Major Development Project resulting in 100,000 square feet or more of floor area in non-residential uses in the C2 Zone that the Project would require. However, due to the reduced scale of development and reduced job creation, Alternative 2 would not fulfill the goals of the 2020-2045 SCAG RTP/SCS or State and City goals for development within HQTAs or TPAs to the same extent as the Project, since it would not place as much job-creating office space on an urban infill site served by transit, which would encourage the use of alternative modes of transportation and reduce VMT.

Although the duration of construction of Alternative 2 would be reduced in comparison to the Project, and Alternative 2 would include the same Project Design Features as the Project, as discussed on pages VI-65-67 and VI-69-71 of the Draft EIR, Alternative 2 would not avoid or reduce to a less-than-significant level, the significant and unavoidable construction noise and vibration impacts of the Project related to Project-level and cumulative off-road construction noise, Project-level and cumulative composite construction noise, Project-level vibration (building damage) from off-road construction, and Project-level and cumulative vibration (human annoyance) from on-road construction vehicles. As to off-road and composite construction noise, as discussed therein, the off-road construction equipment needed for construction of Alternative 2 would be the same as for the Project. As such, similar to the Project, the closest off-site sensitive receptor to the Project Site, the roof-mounted trailer located at 428 South Hewitt St., would experience construction noise levels reaching as much as 81 dBA which would exceed the noise threshold of 75 dBA and exceed the existing ambient exterior noise levels by 5 dBA or more at the property line at this sensitive receptor as well as at the live/work land use at 442 Colyton St., and the potential live/work use at 449 South Hewitt St. Even with implementation of the same Mitigation Measure NOI-MM-1 (on- and off-site noise barriers) as the Project, due to the proximity of the roof-top trailer at 428 South Hewitt St. (80 feet), it is not feasible to reduce Alternative 2's construction noise impact from off-road equipment to below the level of significance, as only two pieces of operating equipment would exceed the threshold. Moreover, similar to the Project, both the 24-foot on-site ground floor barrier and the rooftop barrier located off-site would not reduce noise levels below the level of significance at 428 South Hewitt St. during all phases of construction of the five-story Alternative 2 building, because some of the building construction phase activity would occur at a higher elevation than the top of the barriers. However, noise would be reduced as paving activity would not occur above ground level under Alternative 2. Thus, due to the building height, and also because the property owner may not agree to the off-site rooftop barrier mitigation component, Alternative 2's impact would remain significant and unavoidable at 428 South Hewitt St. In addition, as with the Project, at 442 Colyton St. and 449 South Hewitt St., it would be infeasible to construct a noise barrier that would block the line of site between construction of the higher floors of the five-story Alternative 2 structure and the receptors, and there is also insufficient space for a barrier along the southern property line due to the presence of existing buildings adjacent to the Project Site construction activity. As further indicated therein, although the degree of impact would be reduced in comparison to the Project due to the reduction in overall construction activity, the composite noise levels for Alternative 2 would also be in excess of the 5-dBA noise increase threshold at 428 South Hewitt St., 442 Colyton St., and 449 South Hewitt Street. Thus, similar to the Project, since off-road construction equipment use and haul truck trips may occur simultaneously during Alternative 2 construction, the composite construction noise impact of Alternative 2 would be significant and unavoidable although less than the Project's significant and unavoidable construction noise impacts.

As to vibration impacts, as discussed on pages VI-69-71 of the Draft EIR, and on pages III-52-53 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 2 would also incorporate Mitigation Measures NOI-MM-2, NOI-MM-3, and NOI-MM-4 which require a pre-construction survey, shoring plan, and comprehensive structural monitoring program, respectively, for adjacent sensitive buildings at 418 Colyton St., 424 Colyton St., and 427 South Hewitt St., to reduce the potential for vibration damage at these fragile structures. However, because these measures require the consent of other property owners, who may not agree to implement all components of the Mitigation Measures, like the Project, the potential for damage due to construction vibrations at these structures would be significant and unavoidable, as Alternative 2 would involve the use of similar construction equipment adjacent to these fragile buildings. However, the Alternative 2's significant and unavoidable impact would be less than the Project's significant and unavoidable impact, due to the reduction in construction activities. With respect to potential human annoyance impacts, as further indicated therein, the haul route for Alternative 2 would be the same as for the Project and, therefore, all sensitive uses along the haul route would be the same. While the sensitive uses near the Project Site have a minimum 25-foot setback from the center of the nearest through traffic lane and, therefore, would not experience vibration levels above the human annoyance threshold of 72 VdB, along the full extent of the hall route there may be vibration-sensitive receptors within 25 feet of the center of the of the nearest travel lane at which vibration would exceed the 72 VdB significance criteria for residential uses and 75 VdB for institutional uses. Thus, Alternative 2's potential human annoyance impacts due to construction on-road vibration would be significant and unavoidable, although less than the Project's significant and unavoidable impacts as Alternative 2 would not require substantial grading and soil export (5,205 cubic yards of grading as compared to the Project's 75,200 cubic yards).

Hence, for all the reasons discussed above, and set forth in the Draft EIR, like the Project, Alternative 2's construction noise and vibration impacts would be significant and unavoidable, but less than the Project's significant and unavoidable impacts, due to the reduced scale of development, the shorter construction schedule, and the reduced soil exportation.

In addition, as discussed on pages VI-79-80, and shown in Appendix P, of the Draft EIR, the average work VMT per employee (7.6) under Alternative 2, while still less than significant, would be greater than that of the Project (7.2). Also, Alternative 2's reduced employment opportunities would not meet the goals of the 2020-2045 RTP/SCS and the City for development within a HQTA and TPA to the same extent as the Project. Moreover, Alternative 2 impacts related to conflicts with programs, plans, ordinances, or policies addressing the circulation system would be less than significant but greater than the less-than-significant impact of the Project, since the Project would satisfy more of the pedestrian and walkability goals of the applicable policies by including a pedestrian passageway that connects Colyton St. and South Hewitt St., as well as a courtyard along Colyton Street, neither of which would be included with Alternative 2. Therefore, Alternative 2 would not provide improved pedestrian accessibility and safety to the same extent as the Project, would not reduce VMT to the same extent as the Project, and would not meet the 2020-2045 RTP/SCS, State and City goals for development within a HQTA and TPA to the same extent as the Project. As such, Alternative 2's less-than-significant transportation impacts would be greater than the Project's less-than-significant transportation impacts.

Therefore, Alternative 2 would neither avoid the Project's significant and unavoidable construction noise and vibration impacts nor achieve the basic Project objectives to the same extent as the Project. Alternative 2 would not redevelop the urban infill Project Site and provide a mixed-use, commercial office project that increases job opportunities in proximity to public transit and other commercial and residential land uses to the same extent as the Project because reducing the scale of development by approximately 78 percent would provide substantially fewer jobs. Alternative 2 would not provide open space, as compared to the Project, which would provide open space in the form of the courtyard along Colyton Street and the passageway connecting Colyton and South Hewitt Streets. As such while Alternative 2 would meet Project Objectives 7 (encourage the use of alternative forms of transportation) and 8 (reduce the consumption of energy and water), Alternative 2 would not meet the Project Objectives 1 through 6 to the same degree as the Project.

(E) Reference

Refer to Section VI, Alternatives, and Appendix P, Alternatives Technical Document, of the Draft EIR.

3. Alternative 3: Downtown Community Plan Alternative

(A) Description of Alternative

As discussed on pages VI-94 through IV-95 in Chapter VI, Alternatives, of the Draft EIR, and pages III-56-61 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, in the Final EIR, the Downtown Community Plan Alternative (Alternative 3) would develop a Project that is consistent with the draft DTLA 2040 Community Plan update. The draft Downtown Community Plan land use designation for the Project Site is proposed to be Hybrid Industrial. Alternative 3 would include the demolition of the existing office building on South Hewitt St. and its associated garage/storage space (6,030 square feet combined), the 1,000-square-foot storage space associated with the 7,800-square-foot building formerly occupied by the A+D Museum on Colyton Street, and 39,751 square feet of surface parking lots. The existing 7,800-square-foot, bow truss building fronting Colyton St. would be retained under Alternative 3. Grading activities would be comprised of minor surface preparation and would require 5,205 cubic yards of exported soils. In accordance with the land uses and zoning specifications permitted in draft Downtown Community Plan, Alternative 3 would develop 8,149 square feet of new retail/restaurant space, and 70,039 square feet of new residential space comprised of 44 live/work units. Alternative 3 would provide 89 parking spaces within one above grade level. Alternative 3 would include no subterranean development. The proposed structure for Alternative 3 would reach a maximum height of 96 feet, including five stories (one of which would be the parking level) above grade, a total floor area of 85,988 square feet, a net increase of 71,158 square feet over existing conditions, with a FAR of 1.5:1. The design of Alternative 3 would be similar to that of the Project; incorporating design elements that reflect the character of the Arts District, as well as modern elements. However, Alternative 3 would contain no publicly accessible open space nor would it provide a pedestrian passageway that connects Colyton and South Hewitt Streets.

(B) Impact Summary

As discussed on pages VI-95-148 in Chapter VI, Alternatives, of the Draft EIR, and on pages III-56-67 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 3 would result in a smaller development which would reduce the construction period from 30 months to 22 months, thereby reducing the duration of the significant impacts compared to the Project and reducing the Project's less-than-significant impacts as summarized in Table VI-3, *Summary Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, included in Section VI, Alternatives, of the Draft EIR. However, as discussed on pages VI147-148, Alternative 3 would not avoid the Project's significant and unavoidable construction noise and vibration impacts as it would require similar construction equipment and haul truck routes, although the duration of construction activities and the amount to soil exportation would be reduced. As such, Alternative 3's construction noise and vibration impacts would be significant and unavoidable but less than the Project's significant and unavoidable impacts. As discussed on page VI-134, Alternative 3 would have less-than-significant but greater than the Project's less-than-significant impact related to geometric design hazards since it would not have a pedestrian passageway from Colyton St. to South Hewitt St. Additionally, since Alternative 3 would develop primarily residential uses and not office uses, which would create 64 jobs as compared to the Project's 1,282 jobs, Alternative 3 would not redevelop the urban infill Project Site with a mixed-use, commercial office project that increases job opportunities in proximity to public transit and other commercial and residential land uses to the same extent as the Project.

(C) Finding

Pursuant to PRC Section 21081(a)(3), the City finds that the specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(D) Rationale for Finding

As discussed on pages VI-95-148 in Chapter VI, Alternatives, of the Draft EIR, and on pages III-56-67 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 3 would result in a smaller development which would reduce the construction period from 30 months to 22 months, thereby reducing the duration of the significant impacts compared to the Project and reducing the Project's less-than-significant impacts as summarized in Table VI-3, *Summary Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, included in Section VI, Alternatives, of the Draft EIR. In accordance with the land uses and zoning specifications permitted in draft Downtown Community Plan, Alternative 3 would develop a mixed-use residential project which creates 64 jobs as compared to the Project's 1,282 and, therefore, would not achieve the basic Project objectives, because it would construct a mixed-use development with residential uses rather than office uses that would create fewer jobs. However, as Alternative 3 would be developed in accordance with the draft Downtown Community Plan zoning and land use designation for the Project Site, and it would not require the General Plan Amendment, Vesting Zone Change, or Height District Change that the Project would require. Alternative 3 would also fulfill the goals of the 2020-2045 RTP/SCS and State's Regional Housing Needs Assessment to provide housing. Nonetheless, due to the reduced scale of development and substantially reduced job creation, Alternative 3 would not fulfill the other goals of the 2020-2045 RTP/SCS or State and its goals for HQTAs and TPAs to the same extent as the Project would, since it would not place job-creating office space on an urban infill site served by transit, which would encourage the use of alternative modes of transportation and reduce daily employee VMT. In addition, Alternative 3 would not include a pedestrian passageway connecting Colyton St. and South Hewitt St., nor would it include a courtyard along Colyton St., and, thereby, would not provide these improved pedestrian accessibility and safety features.

Additionally, although the duration of construction of Alternative 3 would be reduced in comparison to the Project, and Alternative 3 would include the same Project Design Features as the Project, and the Alternative would not avoid or reduce to a less-than-significant level the significant and unavoidable construction noise and vibration impacts of the Project related to Project-level and cumulative off-road construction noise, Project-level and cumulative composite construction noise, Project-level vibration (building damage) from off-road construction, and Project-level and cumulative vibration (human annoyance) from on-road construction vehicles. As to off-road and composite construction noise, as discussed therein, the off-road construction equipment needed for construction of Alternative 3 would be the same as for the Project. As such, similar to the Project, the closest off-site sensitive receptor to the Project Site, the roof-mounted trailer located at 428 South Hewitt St., would experience construction noise levels reaching as much as 81 dBA which would exceed the noise threshold of 75 dBA and exceed the existing ambient exterior noise levels by 5 dBA or more at the property line at this sensitive receptor as well as at the live/work land use at 442 Colyton St., and the potential live/work use at 449 South Hewitt St. Even with implementation of the same Mitigation Measure NOI-MM-1 (on- and off-site noise barriers) as the Project, due to the proximity of the roof-top trailer at 428 South Hewitt St. (80 feet), it is not feasible to reduce Alternative 3's construction noise impact from off-road equipment to below the level of significance, as only two pieces of operating equipment would exceed the threshold. Moreover, similar to the Project, both the 24-foot on-site ground floor barrier and the rooftop barrier located off-site would not reduce noise levels below the level of significance at 428 South Hewitt St. during all phases of construction of the five-story Alternative 3 building, because some of the building construction phase activity would occur at a higher elevation than the top of the barriers. However, noise would be reduced as paving activity would not occur above ground level under Alternative 3. Thus, due to the building height, and also because the property owner may not agree to the off-site rooftop barrier mitigation, Alternative 3's impact would remain significant and unavoidable at 428 South Hewitt St. In addition, as with the Project, at 442 Colyton St. and 449 South Hewitt St., it would be infeasible to construct a noise barrier that would block the line of site between construction of the higher floors of the five-story Alternative 3 structure and the receptors, and there is also insufficient space for a barrier along the southern property line due to the presence of existing buildings adjacent to the Project Site construction activity. As further indicated therein, although the degree of impact would be reduced in comparison to the Project due to the reduction in overall construction activity, the composite noise levels for Alternative 3 would also be in excess of the 5-dBA noise increase threshold at 428 South Hewitt Street, 442 Colyton St., and 449 South Hewitt St. Thus, similar to the Project, since off-road construction equipment use and haul truck trips may occur simultaneously during Alternative 3 construction, the composite construction noise of Alternative 3 would be significant and unavoidable although less than the Project's significant and unavoidable construction noise impacts.

As to vibration impacts, as discussed on pages VI-123 -124 of the Draft EIR, and on page III-58 in Chapter III, Revisions, Clarifications, and Corrections to the Draft EIR, of the Final EIR, Alternative 3 would also incorporate Mitigation Measures NOI-MM-2, NOI-MM-3, and NOI-MM-4 which require a pre-construction survey, shoring plan, and comprehensive structural monitoring program, respectively, for adjacent sensitive buildings at 418 Colyton St., 424 Colyton St., and 427 South Hewitt St., to reduce the potential for vibration damage at these fragile structures. However, because these measures require the consent of other property owners, who may not agree to implement all components of the Mitigation Measures, like the Project, the potential for damage due to construction vibrations at these structures would be significant and unavoidable, as Alternative 3 would involve the use of similar construction equipment adjacent to these fragile buildings. However, the Alternative 3's significant and unavoidable impact would be less than the Project's significant and unavoidable impact, due to the reduction in construction activities. With respect to potential human annoyance impacts, as further indicated therein, the haul route for Alternative 3 would be the same as for the Project and, therefore, all sensitive uses along the haul route would be the same. While the sensitive uses near the Project Site have a minimum 25-foot setback from the center of the nearest through traffic lane and, therefore, would not experience vibration levels above the human annoyance threshold of 72 VdB, along the full extent of the hall route there may be vibration-sensitive receptors within 25 feet of the center of the of the nearest travel lane at which vibration could exceed the 72 VdB significance criteria for residential uses and 75 VdB for institutional uses. Thus, Alternative 3's potential human annoyance impacts due to construction on-road vibration would be significant and unavoidable, although less than the Project's significant and unavoidable impacts as Alternative 3 would not require substantial grading and soil export (5,205 cubic yards of grading as compared to the Project's 75,200 cubic yards).

Hence, for all the reasons discussed above, and set forth in the Draft EIR, like the

Project, Alternative 3's construction noise and vibration impacts would be significant and unavoidable, but less than the Project's significant and unavoidable impacts, due to the reduced scale of development, the shorter construction schedule, and the reduced soil exportation.

As to Transportation impacts, similar to the Project, Alternative 3's impacts would be less than significant. However, as discussed on pages VI-131-133 of the Draft EIR, Alternative 3's reduced employment opportunities would not meet the goals of the 2020-2045 RTP/SCS and the City for development within a HQTA and TPA to the same extent as the Project. Moreover, Alternative 3 impacts related to conflicts with programs, plans, ordinances, or policies addressing the circulation system would be less than significant but greater than the less-than-significant impact of the Project, since the Project would satisfy more of the pedestrian and walkability goals of the applicable policies by including a pedestrian passageway that connects Colyton and South Hewitt St., as well as a courtyard along Colyton St., neither of which would be included with Alternative 3. Therefore, Alternative 3 would not provide improved pedestrian accessibility and safety to the same extent as the Project, and would not meet the 2020-2045 RTP/SCS, State and City goals for development within a HQTA and TPA to the same extent as the Project. As such, Alternative 3's less-than-significant transportation impacts associated with conflicts with plans and policies and geometric design hazards would be greater than the Project's less-than-significant transportation impacts.

Therefore, Alternative 3 would neither avoid the Project's significant and unavoidable construction noise and vibration impacts nor achieve the basic Project objectives to the same extent as the Project. Alternative 3 would not redevelop the urban infill Project Site which would provide a mixed-use, commercial office uses that increases job opportunities in proximity to public transit and other commercial and residential land uses because Alternative 3 is primarily a residential project creating 44 residential units and generating a residential population of 137 and only 64 jobs. Alternative 3 would not provide public open space, as compared to the Project, which would provide open space in the form of the courtyard along Colyton St. and the passageway connecting Colyton St. and South Hewitt St. As such while Alternative 3 would meet Project Objectives 7 (encourage the use of alternative forms of transportation) and 8 (reduce the consumption of energy and water), Alternative 3 would not meet the Project Objectives 1 through 6.

(E) Reference

Refer to Section VI, Alternatives, and Appendix P, Alternatives Technical Document, of the Draft EIR.

D. Alternatives Rejected as Infeasible

As set forth in CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate an alternative from detailed consideration are the alternative's failure to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. Alternatives to the Project that were considered and rejected as infeasible include the following:

(1) Alternative Site Location

As discussed on pages VI-7-8 in Chapter VI, Alternatives, of the Draft EIR, the Applicant does not own another comparable site in the City. However, even if the Applicant could locate or acquire another urban infill site in the Arts District or elsewhere in the City within the timeline of the Project, a project developed on such a site would result in similar significant and unavoidable construction period noise and vibration impacts as the Project. Urban infill sites are generally surrounded by development and often receptors that are sensitive to noise and/or vibration. In addition, sensitive receptors are typically located at some point along the haul routes for an urban infill project site. Therefore, an alternative that located the Project to another site is not feasible and would not avoid the Project's significant and unavoidable construction noise and vibration impacts.

(2) Alternatives that Avoid the Project's Significant and Unavoidable Construction Period Noise and Vibration Impacts

For all the reasons discussed in Section IV.I, Noise, of the Draft EIR, the Project would result in significant and unavoidable impacts from construction noise impacts from off-road construction and composite construction noise, and significant and unavoidable vibration (building damage) impacts from off-road construction activities and vibration (human annoyance) impacts from on-road construction vehicles. As discussed on pages VI-8-11 in Section VI, Alternatives, of the Draft EIR, the following alternatives were considered and rejected as none would achieve the goal of avoiding these impacts, or reducing these impacts to a less-than-significant level, due to the constraints of the Project Site, which is only 1.31-acre, the proximity of sensitive receptors to the Project Site, the proximity of sensitive receptors to the haul route, and for the additional reasons summarized below.

i. Omit Subterranean Parking Levels and Excavation Activities

As discussed on pages VI-8-9 in Chapter VI, Alternatives, of the Draft EIR, this alternative, which would place all parking levels above ground and thereby eliminate the excavation for the Project's four subterranean parking levels, was rejected from further consideration based on the following factors:

- Although the elimination of excavation activities would reduce the use of construction equipment pieces during the grading phase that generate significant and unavoidable construction period noise and vibration levels, the same equipment would still be utilized to demolish existing site uses; to prepare and level the site for new construction; and to collect, remove, and transport demolished materials and surface soils from the site. Therefore, this scenario would not avoid the significant noise and vibration impacts of the Project.

- Although substantial excavation activities would be eliminated in this scenario, noise produced during the building construction phase (including foundation work, building construction and finishing,) and the paving phase would still occur. The noise level would be similar to that of the Project, as the same pieces of equipment would be utilized in this scenario, including, but not limited to, a forklift, loader, and crane. Therefore, this scenario would not avoid the significant noise impacts of the Project.

- This scenario would be contrary to the City's policies which support the provision of subterranean parking over above-grade parking, in order to encourage ground-level pedestrian activities.

ii. Extend the Duration of the Construction Period

As discussed on pages VI-9-10 in Chapter VI, Alternatives, of the Draft EIR, this alternative which would extend the Project's construction period to reduce the amount of daily construction activity, was rejected from further consideration based on the following factors:

- This scenario assumes that the number of construction equipment pieces operating at a given time would be reduced. However, as shown in Table VI-2, *Reduced Construction Equipment Noise Levels*, of the Draft EIR, noise levels would still exceed the thresholds of significant at the nearest sensitive receptor (the roof-top trailer at 428 South Hewitt St.) during the demolition phase, which would be the loudest. Due to the proximity (80 feet) of this sensitive receptor, it is not feasible to reduce the construction noise impact from off-road equipment use to below the level of significance, since even two pieces of operating equipment exceeds the threshold. In addition, prolonging the construction period would be inefficient and would increase the number of days that sensitive receptors would be impacted by construction activities.

- The construction period vibration (building damage) impact of the Project would not be avoided in this scenario since the vibration impact analysis is based on a peak vibration level from individual equipment and the same equipment would still be used for demolition and excavation activities and since implementation of Mitigation Measures NOI-MM-1 though NOI-MM-4 would require the consent of adjacent property owners. Similarly, as soils would still be exported from the Project Site, the construction period vibration (human annoyance) impact of the Project that would occur to sensitive receptors along the haul route would not be avoided.

(3) Central Development Location

As discussed on page VI-11 in Chapter VI, Alternatives, of the Draft EIR, this alternative, which would reduce the footprint of the Office Building and move it to the center of the Project Site, in order to increase the distance between sensitive receptors and construction activities, was rejected from further consideration based on the following factors:

- The 1.31 acre Project Site, (which has an irregular L-shaped configuration with dimensions of approximately 295 feet in width from Colyton St. to South Hewitt

St., 250 feet in length from the northern boundary to the southern boundary towards the South Hewitt St. side, and approximately 150 feet in length from the northern boundary to the southern boundary towards the Colyton St. side), has insufficient space to increase setbacks from the property boundaries enough to reduce off-road construction equipment noise levels to below the level of significance. In addition, demolition, excavation and site preparation construction activities including demolishing the existing structures and constructing the subterranean parking levels would still occur up to the Project Site property lines. Therefore, this scenario would not avoid the Project's significant and unavoidable noise impacts.

- The construction period vibration (building damage) impact of the Project would not be avoided in this scenario since the vibration impact analysis is based on a peak vibration level from individual equipment and the same equipment would still be used for demolition and excavation activities and since implementation of Mitigation Measures NOI-MM-1 though NOI-MM-4 would require the consent of adjacent property owners. Similarly, as soils and demolished material would still be exported from the Project Site, the construction period vibration (human annoyance) impact of the Project that would occur to sensitive receptors along the haul route would not be avoided.

E. Environmentally Superior Alternative

Section 15126.6(e)(2) of the CEQA Guidelines indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should if it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives. Pursuant to Section 15126.6(c) of the CEQA Guidelines, the analysis below addresses the ability of the alternatives to "avoid or substantially lessen one or more of the significant effects" of the Project.

As discussed on pages VI-148-149 in Chapter VI, Alternatives, of the Draft EIR, page III-61 in Chapter III, Revisions, Clarifications and Corrections, of the Final EIR and as shown in Table VI-3, *Summary Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, Alternative 1 would be the Environmentally Superior Alternative, because it would avoid the Project's significant and unavoidable construction period noise and vibration impacts, as well as eliminate the Project's remaining less than significant and less than significant with mitigation impacts, since no changes to the existing conditions would occur. However, Alternative 1 would not meet any of the Project objectives or the goals the State, SCAG, and the City for developments located in HQTA and TPAs. In addition, Alternative 1 would not decrease the imperviousness of the Project Site as compared to the Project (in compliance with the LID Ordinance), nor improve pedestrian connectivity and walkability, since it would not construct a passageway connection between Colyton St. and South Hewitt St. and a courtyard facing Colyton St. Therefore, as the CEQA Guidelines require the identification of an Environmentally Superior Alternative other than the No Project Alternative,

Alternative 2 would be the Environmentally Superior Alternative. Alternative 2 represents a reduced development that is in accordance with the existing zoning designation and FAR allowed within the Project Site. While Alternative 2 would not avoid or reduce to a less-than-significant level the temporary, construction period significant and unavoidable noise and vibration impacts of the Project related to Project-level and cumulative off-road construction noise, Project-level and cumulative composite construction noise, Project-level vibration (building damage) from off-road construction, and Project-level and cumulative vibration (human annoyance) from on-road construction vehicles, it would result in similar or fewer impacts to the majority of the remaining environmental resources evaluated overall.

IX. Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines indicates that an EIR should evaluate any significant irreversible environmental changes that would occur should the proposed project be implemented. The types and level of development associated with the Project would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during construction of the Project and would continue throughout its operational lifetime. The development of the Project would require a commitment of resources that would include: (1) building materials and associated solid waste disposal effects on landfills; (2) water; and (3) energy resources (e.g., fossil fuels) for electricity, natural gas, and transportation.

(A) Building Materials and Solid Waste

As discussed on pages V-7-9 in Chapter V, Other CEQA Considerations, of the Project, the Project would consume a limited amount of nonrenewable resources and renewable resources that are only replenished very slowly over time. During construction, the Project would use building and construction supplies, such as: lumber and other wood products; aggregate materials, including sand and gravel, that are used to create concrete and asphalt; metals such as steel and copper; and petrochemical construction materials like plastics. However, the use of these materials would not occur in an inefficient or wasteful manner given that Project construction would adhere to the sustainability requirements of Title 24, the Los Angeles Green Building Code, and CALGreen, as well as those required to meet the standards to achieve LEED Silver certification as required by Project Design Feature GHG-PDF-1. Thus, although the Project would involve the use of nonrenewable and slowly renewable resources, the consumption would occur in accordance with the existing State and local regulations that govern the use of such materials and resources and Project Design Feature GHG-PDF-1.

As to solid waste, as discussed on page V-8 in Chapter V, Other CEQA Considerations, and pages IV.N.1-13-21 in Section IV.N.1, Utilities and Service Systems – Solid Waste, of the Draft EIR, and on page B-37 of the Initial Study contained in Appendix A2 of the Draft EIR, the Project would generate solid waste during construction and operation. However, as indicated therein, the Project would comply with all applicable State and City regulations including reducing solid waste through the diversion of 75 percent of demolition and construction debris from landfills and the provision of recycling containers in the Office Building pursuant to the City's Green Building Code. Furthermore, the Project would not generate solid waste in excess of available capacity or State or local standards since the Project would meet or exceed the mandated diversion rates and the Project's generation of construction solid waste would amount to a small fraction of available capacity (e.g, solid waste generated during Project operation would amount to only 0.004 percent of available capacity at the Sunshine Canyon Landfill). As such, the Project would not result in the inefficient or wasteful use of building materials, and would not result in significant solid waste impacts, during either Project construction or operation.

(B) Water

As discussed on page V-8 in Chapter V, Other CEQA Considerations, of the Draft EIR, and on pages IV.N.3-27-36 in Section IV.N.3, Utilities and Service Systems – Water Supply and Infrastructure, of the Draft EIR, and the Utilities Technical Report contained in Appendix N of the Draft EIR, and the Water Assessment Report contained in Appendices O1 and O2 of the Draft EIR, the Project would generate a demand for water and water infrastructure capacity. However, as further indicated therein: the Project would implement an on-site water infrastructure systems with connections to existing off-site water mains in compliance with regulatory requirements; the Project would comply with applicable water conservation requirements and would implement additional water conservation measures beyond State and local code requirements through implementation of Project Design Feature WS-PDF-1 (Water Conservation Features); the existing water mains in the area have adequate capacity to serve the Project; and the LADWP's water supplies are available to serve the Project along with LADWP's existing and projected future commitments during normal, dry and multiple dry years for the foreseeable future. Therefore, the LADWP would be able to meet the Project water demand, in addition to meeting the existing and planned water demands of its service area.

(C) Energy Consumption

As discussed on pages V-7-9 in Chapter V, Other CEQA Considerations, of the Draft EIR, and on pages IV.C-20-40 in Section IV.C, Energy, of the Draft EIR, and the Energy Calculations included as Appendix D of the Draft EIR, Project construction activities and operation would consume electricity, natural gas and transportation fuel. However, this consumption would occur in accordance with both applicable energy efficiency regulations and the Project's TDM requirements, as well as, Project Design Features GHG-PDF-1 (which requires the incorporation of the additional energy conservation features in the Project required to attain LEED Silver certification) and WS-PDF-1 (Water Conservation Features). Moreover, the Project would not conflict with the 2020-2045 RTP/SCS as it would develop a mixed-use commercial infill project within a SCAG-designated HQTA and City-designed TPA in close proximity to transit, (including within one-half mile of the Metro Little Tokyo/Arts District Station and proximate to several bus stops), which would maximize transit and other alternative modes of transportation and minimize VMT and energy consumption. The Project would also provide short-and long-term bicycle spaces and increase pedestrian mobility in its immediate vicinity by offering a passageway that connects South Hewitt St. and Colyton St. and by providing sidewalks along its Colyton St. and South Hewitt St. frontages where none currently exist which would also minimized VMT and energy consumption.

As such, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during Project construction.

(D) Environmental Hazards

As stated on pages V-8-9 in Chapter V, Other CEQA Considerations, of the Draft EIR and on pages IV.F-29-31 in Section IV.F, Hazards and Hazardous Materials, of the Draft EIR and Appendices G1, Phase I Environmental Site Assessment, and G2, Phase II Subsurface Investigation, of the Draft EIR, while soils analysis was conducted for portions of the Project Site, some portions were inaccessible due to the occupied use of the garage, office building and parking lot. As discussed therein, during Project Site preparation and construction activities, the Project would involve the routine transport, use, and disposal of hazardous materials that are typically necessary for demolition and the construction of commercial development, such as paints, building materials, adhesives, cleaners, and fuel for construction equipment and vehicles. Excavation would produce an estimated 75,200 cubic yards of soil that would be exported from the Project Site. Although subsurface investigations completed to date have not detected hazardous soil conditions, due to the proposed excavation activities, historical occupancies of the Project Site for vehicle repair and truck washing, and limited access to investigate the subsurface conditions in some on-site locations, the Project has the potential to uncover hazardous soil conditions that may create a significant hazard to the public or the environment. During operations of the Project, common hazardous materials, such as cleaning solvents used for janitorial purposes, oils used in cooking and grill and oven cleaners, materials used for maintenance (such as lubricants or thinners), and materials used for landscaping (including fertilizers, pesticides, or chemicals for weed control) would be stored and used on-site. Therefore, the Project has the potential to expose the public or environment to hazardous materials, in the event of an unplanned release. However, the Project’s transport, use, and disposal of hazardous materials during construction and operations would occur in accordance with the manufacturers’ specifications for each material, as well as in conformance with applicable federal, State, and local regulations governing such materials and activities. To address potentially hazardous soil conditions during construction, the Project would also be required to implement Mitigation Measures HAZ-MM-1 (a Supplemental Phase II Subsurface Site Investigation) and HAZ-MM-2 (a Soil Management Plan). Compliance with these standards, regulations, and mitigation measures would avoid an accidental release that would cause significant and irreversible environmental change.

Additionally, as discussed on page IV.F-30 of the Draft EIR, although the buildings to be demolished on the Project Site have been renovated over time, they were initially constructed prior to current bans on the use of lead paint, asbestos and PCBs. Therefore, there is a potential for encountering hazardous materials during Project demolition activities. However, compliance with all applicable federal, State and local regulations, regarding such hazardous materials, will ensure that any such material would be discovered prior to demolition and would be properly handled and disposed of, as well as to allow for measures to ensure worker safety during demolition.

X. Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the ways in which a proposed project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth or increases in the population which may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Additionally, consideration must be given to characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

(A) Direct Growth by Economic Means

As discussed on pages V-9-10 in Chapter V, Other CEQA Considerations, of the Draft EIR, the Project's development of office and restaurants uses would increase uses at the Project Site and would create additional employment opportunities in the Community Plan area. However, the Project would not create direct growth by economic means because: both construction period jobs and operational period jobs that would be generated by the Project are anticipated to be filled by residents in the greater Los Angeles area; the Project Site is located within a HQTA and TPA, placing office and restaurant jobs within one-half mile of the Metro Little Tokyo/Arts District Station and proximate to several bus stops; and, the Project's uses and employment opportunities, as discussed in detail in Section IV.J, Population and Housing, of the Draft EIR, would not represent substantial unplanned growth in the City or SCAG region. Additionally, as the Project would provide job opportunities, concentrate redevelopment near public transit opportunities, facilitate bicycle and pedestrian mobility, and provide commercial amenities for residents, it would also fulfill the City's goals related to reducing VMT, reducing emissions, placing employment opportunities proximate to residential uses, and concentrating development on infill properties, as conveyed in the Framework Element, existing Community Plan, and draft Downtown Community Plan. Accordingly, the Project would not induce unanticipated direct economic growth. The Project does not include residential land uses and would therefore not generate direct housing or population growth.

(B) Indirect Growth by the Extension of Utilities and Infrastructure

As discussed on pages V-10-11 in Chapter V, Other CEQA Considerations, of the Draft EIR, the Project Site is located in the urbanized area of Downtown Los Angeles, within the Arts District, which is served by existing infrastructure and utilities, including roads and water, sewer, electricity, gas, and telecommunications facilities, as well as other community service facilities, such as public transit stops and police and fire protection facilities. The Office Building would tie into the existing utilities and infrastructure in the Project area, and any service connections or upgrades to the water, sewer, electricity, gas, and telecommunications facilities would be sized to serve only the demand of the Project. Thus, the Project would not require the expansion or addition of additional public service facilities, nor does it propose new roadways or other community service facilities. As the Project would not introduce new development, nor accompanying utilities or infrastructure, into an area that is not already serviced, it would not indirectly induce a substantial amount of growth that is not already anticipated and planned for by the City and SCAG.

XI. Energy Conservation

As discussed on pages IV.C-34-35 in Section IV.C, Energy, of the Draft EIR, the Project would conserve energy in compliance with federal, State and local requirements through compliance with relevant conservation policies and plans including the CALGreen Code and the City's Green Building Code as well as the requirements under Project Design Feature GHG-PDG-1 which includes measures beyond code requirements to achieve LEED Silver standards. Specifically, the Project would include, but not be limited to, a cool roof, EnergyStar appliances, low-flow plumbing fixtures and fittings, and water efficient landscaping. The Project would also conserve transportation fuel as it would: be an in-fill commercial development located in a TPA and HQTA in proximity to major transit (located 0.5 miles of the Metro L (Gold) Line Little Tokyo/Arts District Station and near regional and local bus lines); be located in area near housing, commercial, and neighborhood services uses; implement TDM measures included in Project Design Feature TRANS-PDF-3 to encourage alternative modes of transportation and TRANS-PDF-2 to contribute to the Arts District TMO; include bicycle parking an amenities; include improve walkability of the area through a pedestrian passage, sidewalks adjacent to the Project Site where none currently exist, and landscaping including street trees. All of which would result in reduction in single-occupancy vehicle use and utilization of alternative modes of transportation including public transit, walking and bicycling. As further discussed therein, the Project would be consistent with regional planning strategies that address energy conservation including the 2020–2045 RTP/SCS which focuses on creating livable communities with an emphasis on sustainability and integrated planning, and on reducing fossil fuel use by decreasing VMT, reducing building energy use, and increasing use of renewable sources. All of these features would serve to reduce the consumption of electricity, natural gas, and transportation fuel. As such, the Project would be consistent with adopted energy conservation plans.

XII. Statement of Overriding Considerations

The EIR identifies unavoidable significant impacts that would result from implementation of the Project. PRC Section 21081 Section 15093(b) of the CEQA Guidelines provide that when a decision of a public agency allows the occurrence of significant impacts that are identified in the EIR, but are not at least substantially mitigated to an insignificant level or eliminated, the lead agency must state in writing the reasons to support its action based on the EIR and/or other information in the record. Pursuant to CEQA Guidelines Section 15093(b), the decision-maker must adopt a Statement of Overriding Considerations at the time of approval of a project if it finds that significant adverse environmental effects have been identified in the EIR that cannot be substantially mitigated to an insignificant level or be eliminated. These findings and the Statement of Overriding Considerations are based on the documents and materials that constitute the record of proceedings, including, but not limited to, the Final EIR and all technical appendices attached thereto.

Based on the analysis provided in Section IV, Environmental Impact Analysis, of the Draft EIR, implementation of the Project would result in significant impacts that cannot be feasibly mitigated with respect to: Off-road construction equipment noise (Project-specific and cumulative impacts); Composite construction activity noise (Project-specific and cumulative impacts); Construction vibration (structural damage) from off-road construction equipment (Project-specific impact); and Construction vibration (human annoyance) from on-road haul route trucks (Project-specific and cumulative impacts).

Accordingly, the City adopts the following Statement of Overriding Considerations. The City recognizes that significant and unavoidable impacts would result from implementation of the Project. Having (i) adopted all feasible mitigation measures, (ii) rejected as infeasible the alternatives to the Project discussed above, (iii) recognized all significant, unavoidable impacts, and (iv) balanced the benefits of the Project against the Project's significant and unavoidable impacts, the City hereby finds that each of the Project's benefits, as listed below, outweigh and override the significant unavoidable impacts relating to construction noise and vibration impacts.

The below stated reasons summarize the benefits, goals and objectives of the Project, and provide the detailed rationale for the benefits of the Project. These overriding considerations of economic, social, aesthetic, and environmental benefits for the Project justify adoption of the Project and certification of the completed EIR. Each of the listed Project benefits set forth in this Statement of Overriding Considerations provides a separate and independent ground for the City's decision to approve the Project despite the Project's identified significant and unavoidable environmental impacts. Each of the following overriding consideration separately and independently (i) outweighs the adverse environmental impacts of the Project, and (ii) justifies adoption of the Project and certification of the completed EIR. In particular, achieving the underlying purpose for the Project would be sufficient to override the significant environmental impacts of the Project.

- **The Project Would Support City and Regional Land Use and Environmental Goals**. The Project would substantially improve the existing conditions on the Project Site, as it would redevelop low-intensity parcels in the Arts District with a mix of commercial land uses, thereby transforming the Site from an underutilized site to a mixed-use, transit- and pedestrian-oriented commercial development (with office and restaurant uses) on an urban infill site that creates job opportunities and supports the Arts District's other commercial businesses as well as residences, as well as providing public open space, a pedestrian passageway across the Project Site connecting Colyton St. and South Hewitt St., and sidewalks along the Colyton St. and South Hewitt St. rights-of-way where none currently exist. As such, the Project would: create a diverse mix of uses that supports the needs of the City's existing and future residents, businesses, and visitors as called for by the City's Framework Element, Central City Community Plan, and the draft Downtown Community Plan; and reduce VMT and associated traffic and air emissions by providing a mixed-use development on an urban infill site within an HQTA and TPA in proximity existing and planned DTLA residential land uses and public transit facilities, including the Metro L (Gold) Line Little Tokyo/Arts District Station located within one-half mile of the Project Site at 1st St. and Alameda St., as well as the Metro and Downtown Area Short Hop bus stops located near East 4th St. and South Hewitt St. All of which would support the land use and environmental goals of the City's Framework Element, Mobility Plan 2035, Health and Wellness Element, Central City Community Plan, and the 2020–2045 RTP/SCS.

- **The Project Would Provide Economic Development, Employment Opportunities, and Tax Revenue for the City.** The Project would provide for economic growth by creating new office and restaurant uses, providing a net increase of 1,270 jobs, and generating sales, property and business license tax revenues, thereby supporting Objective 7.2 of the Framework Element's Economic Chapter.

- **The Project Would Represent Smart Growth.** The Project would represent mixed-use development and the intensification of urban uses within the highly urbanized Arts District area and within a City-designated TPA and SCAG-designated HQTA in close proximity to transit (including the Little Tokyo/Arts District Station). Furthermore, the Project would not require the extension of roads or utility infrastructure, and the Project would not result in urban sprawl. The Project would also provide jobs in close proximity to existing housing, thereby contributing to jobs-housing balance. These characteristics are consistent with good planning practice, and would reduce VMT, fuel consumption, and associated greenhouse gas emissions.

- **The Project Would Represent Sustainable Development.** In addition to representing smart growth as described above, the Project has been designed, and would be constructed, to incorporate environmentally sustainable building features and construction protocols required by the City's Green Building Code and CALGreen. The Project would also incorporate additional energy conservation features and sustainability measures required to achieve LEED Silver certification pursuant to Project Design Feature GHG-PDF-1, would implement TDM measures, and would incorporate EV charging stations, and bicycle parking and amenities. The Project would include measures to ensure water conservation pursuant to Project Design Feature WS-PDF-1. These Project features would reduce energy and water usage and waste generation and reduce associated greenhouse gas emissions and promote resource conservation.

- **The Project Would Enhance the Arts District.** The Project would enhance the Arts District through replacing old, non-historic structures and surface parking lots with a new Office Building; ground floor, street-facing commercial spaces; a landscaped courtyard and pedestrian passageway that would be open to public use and available for community and private events; and, underground parking. In addition:

- Although there are no open space requirements for commercial uses, the Project would include several areas of publicly accessible open space and tenant amenity spaces including a landscaped and publicly accessible outdoor courtyard, with a pergola, and a passageway to provide pedestrian access between Colyton and South Hewitt Streets. The open space and landscaped amenities would be made up of the outdoor public courtyard and passageway on the ground floor, as well as balconies, and terraces on the 6th floor and the rooftop level on the 17th floor.
- The Project would enhance the streetscape by replacing the three existing non-protected street trees along East 4th Street with five street trees along East 4th St., five street trees along South Hewitt St., and two street trees along Colyton St. pursuant to City regulations and approvals and in excess of the City's 2:1 street tree replacement requirement. Three additional trees, and shrubs, would be planted on-site near the Colyton St. frontage by the existing building formerly occupied by the A+D Museum and the proposed outdoor public courtyard. All of which would improve the appearance of the Project vicinity and enhance the walkability of the area.
- The Project's provision of ground floor restaurant uses would further promote pedestrian activity, promote walkability, and enliven the Arts District area.
- The Project's office and restaurant uses would enhance the pedestrian experience within the Arts District since it would provide commercial uses within walking distance for existing and future residents, employees, and visitors, to further activate pedestrian activity at and around the Project Site and reduce vehicle trips in the Project vicinity.
- The Project would introduce a range of high-quality commercial space at the appropriate scale and intensity that would supply the increasing demand for office, incubator space, and innovative campus uses in the Arts District.
- The Project would represent the character of the Arts District by maintaining the bow truss structure formerly occupied by the A+D Museum and constructing a complementary multi-level building that incorporates unique exterior architectural treatments and publicly accessible open space that acts as a visual anchor.

XIII. General Findings

1. The City, acting through the Department of City Planning, is the "Lead Agency" for the Project evaluated in the EIR. The City finds that the EIR was prepared in compliance with CEQA and the CEQA Guidelines. The City finds that it has independently reviewed and analyzed the EIR for the Project, that the Draft EIR which was circulated for public review reflected its independent judgment and that

the Final EIR reflects the independent judgment of the City.

2. The EIR evaluated the following potentially significant Project and cumulative environmental impacts: aesthetics, air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation and traffic, utilities and service systems, energy, tribal cultural resources, alternatives, and other CEQA considerations. Additionally, the EIR considered, in separate sections, Significant Irreversible Environmental Changes and Growth Inducing Impacts. The significant environmental impacts of the Project and the alternatives were identified in the EIR.

3. The City finds that the EIR provides objective information to assist the decision makers and the public at large in their consideration of the environmental consequences of the Project. The public review periods provided all interested jurisdictions, agencies, private organizations, and individuals the opportunity to submit comments regarding the Draft EIR. The Final EIR was prepared after the review periods and responds to comments made during the public review periods.

4. Textual refinements were compiled and presented to the decision- makers for review and consideration. City staff has made every effort to notify the decision-makers and the interested public/agencies of each textual change in the various documents associated with Project review. These textual refinements arose for a variety of reasons. First, it is inevitable that draft documents would contain errors and would require clarifications and corrections. Second, textual clarifications were necessitated to describe refinements suggested as part of the public participation process.

5. The Department of City Planning evaluated comments on environmental issues received from persons who reviewed the Draft EIR. In accordance with CEQA, the Department of City Planning prepared written responses describing the disposition of significant environmental issues raised. The Final EIR provides adequate, good faith and reasoned responses to the comments. The Department of City Planning reviewed the comments received and responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Draft EIR. The Lead Agency has based its actions on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental impacts identified and analyzed in the EIR.

6. The Final EIR documents changes to the Draft EIR. Having reviewed the information contained in the Draft EIR, the Final EIR, and the administrative record, as well as the requirements of CEQA and the CEQA Guidelines regarding recirculation of Draft EIRs, the City finds that there is no new significant impact, substantial increase in the severity of a previously disclosed impact, significant new information in the record of proceedings or other criteria under CEQA that would require additional recirculation of the Draft EIR, or that would require preparation of a supplemental or subsequent EIR. Specifically, the City finds that:

- The Responses to Comments contained in the Final EIR fully considered and responded to comments claiming that the Project would have significant impacts or more severe impacts not disclosed in the Draft EIR and include substantial evidence that none of these comments provided substantial evidence that the Project would result in changed circumstances, significant new information, considerably different mitigation measures, or new or more severe significant impacts than were discussed in the Draft EIR.

- The City has thoroughly reviewed the public comments received regarding the project and the Final EIR as it relates to the Project to determine whether under the requirements of CEQA, any of the public comments provide substantial evidence that would require recirculation of the EIR prior to its adoption and has determined that recirculation of the EIR is not required.

- None of the information submitted after publication of the Final EIR, including testimony at the public hearings on the Project, constitutes significant new information or otherwise requires preparation of a supplemental or subsequent EIR. The City does not find this information and testimony to be credible evidence of a significant impact, a substantial increase in the severity of an impact disclosed in the Final EIR, or a feasible mitigation measure or alternative not included in the Final EIR.

- The mitigation measures identified for the Project were included in the Draft EIR and Final EIR. As revised, the final mitigation measures for the Project are described in the Mitigation Monitoring Program (MMP). Each of the mitigation measures identified in the MMP is incorporated into the Project. The City finds that the impacts of the Project have been mitigated to the extent feasible by the mitigation measures identified in the MMP.

7. CEQA requires the Lead Agency approving a project to adopt a MMP or the changes to the project which it has adopted or made a condition of project approval in order to ensure compliance with the mitigation measures during project implementation. The mitigation measures included in the EIR as certified by the City and revised in the MMP as adopted by the City serve that function. The MMP includes all of the mitigation measures and project design features adopted by the City in connection with the approval of the Project and has been designed to ensure compliance with such measures during implementation of the Project. In accordance with CEQA, the MMP provides the means to ensure that the mitigation measures are fully enforceable. In accordance with the requirements of PRC Section 21081.6, the City hereby adopts the MMP.

8. In accordance with the requirements of PRC Section 21081.6, the City hereby adopts each of the mitigation measures expressly set forth herein as conditions of approval for the Project.

9. The custodian of the documents or other materials which constitute the record of proceedings upon which the City decision is based is the City of Los Angeles, Department of City Planning.

10. The City finds and declares that substantial evidence for each and every finding made herein is contained in the EIR, which is incorporated herein by this reference, or is in the record of proceedings in the matter.

11. The City is certifying an EIR for, and is approving and adopting findings for, the entirety of the actions described in these Findings and in the EIR as comprising the Project.

12. The EIR is a project EIR for purposes of environmental analysis of the Project. A project EIR examines the environmental effects of a specific project. The EIR serves as the primary environmental compliance document for entitlement decisions regarding the Project by the City and the other regulatory jurisdictions.

FINDINGS OF FACT (SUBDIVISION MAP ACT)

In connection with the approval of Vesting Tentative Tract Map No. 74745 (VTTM), the Advisory Agency of the City of Los Angeles, pursuant to Sections 66473.1, 66474.60, .61 and .63 of the State of California Government Code (the Subdivision Map Act), makes the prescribed findings as follows:

(a) THE PROPOSED MAP IS CONSISTENT WITH APPLICABLE GENERAL AND SPECIFIC PLANS.

Section 66411 of the Subdivision Map Act (Map Act) establishes that local agencies regulate and control the design of subdivisions. Chapter 2, Article I, of the Map Act establishes the general provisions for tentative, final, and parcel maps. The subdivision, and merger, of land is regulated pursuant to Article 7 of the LAMC. The LAMC implements the goals, objectives, and policies of the General Plan through zoning regulations, including Specific Plans. The zoning regulations contained within the LAMC regulate, but are not limited to, the maximum permitted density, height, parking, and the subdivision of land.

Pursuant to LAMC Section 17.05 C, tentative maps are to be designed in conformance with the tract map regulations to ensure compliance with the various elements of the General Plan, including the Zoning Code. Additionally, the maps are to be designed in conformance with the Street Standards established pursuant to LAMC Section 17.05 B. The Project Site is located within the Central City North Community Plan, which designates the Project Site for Heavy Industrial land uses and has a corresponding zone of M3. The Project Site is zoned M3-1-RIO (Heavy Industrial Zone, Height District 1, River Improvement Overlay), which is consistent with the land use designation. The Heavy Manufacturing land use designation allows for a wide range of industrial and commercial zones and the M3 Zone permits a variety of uses and intensities. Height District 1 does not impose a maximum height limit but restricts FAR to 1.5:1. The RIO is a proposed special use district that requires new projects to achieve points in three design categories: Watershed, Urban Design, and Mobility. The RIO also provides guidelines for new complete streets and includes a mobility strategy to ensure that the needs of pedestrians, bicyclists, transit riders, and vehicle drivers are considered when major projects or street improvements are undertaken. Further, the Project Site is subject to the Central City North Community Plan Area Footnote 6 which states, "For properties designated on zoning maps as Height District Nos. 1, 1L, 1VL, or 1XL (or their equivalent), development exceeding a floor area ratio of 1:5:1 up to 3:1 may be permitted through a zone change height district change procedure, including an environmental clearance." The M3 Zone does not require any setbacks. The Project Site is located within the Los Angeles State Enterprise Zone but is not located within a specific plan area.

Under concurrent Case No. CPC-2017-469-GPA-VZC-HD-MCUP-SPR, the Applicant is requesting a 1) a General Plan Amendment to amend the Central City North Community Plan to re-designate the Project Site from Heavy Industrial to Regional Center Commercial; 2) a Vesting Zone and Height District Change from M3-1-RIO to C2-2-RIO; 3) a Main Conditional Use permit to allow the sale and dispensing of a full line of alcoholic beverages for on-site consumption for up to six establishments; and 4) Site Plan Review for a project resulting in greater than 50,000 new square-feet of nonresidential floor area for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton St. The Project would include a total of 340,770 square feet of floor area, comprised of an existing 7,800 square-foot building to remain and a new 332,970 square-foot office building, on a 1.3-acre lot for a maximum 6:1 FAR, and a maximum building height of 292 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking.

In conjunction with the street dedications as required by BOE, and contingent upon the approval of the Project's related entitlements, the Project would be permitted a maximum FAR of 6.1. As conditioned and in conjunction with the approval of the related entitlement requests, the proposed subdivision would be consistent with the applicable General Plan. The re-subdivision of the 1.3 net-acre Project Site into one master ground lot and 12 airspace lots, for a new development would be required to comply with these regulations.

Pursuant to LAMC Section 17.06 B, a tentative map must be prepared by or under the direction of a licensed land surveyor or registered civil engineer and is required to contain information regarding the boundaries of the Project Site, as well as the abutting public rights-of-ways, hillside contours for hillside properties, location of existing buildings, existing and proposed dedication, and improvements of the tract map. The VTTM indicates the map number, notes, legal description, contact information for the owner, Applicant, and engineer, as well as other pertinent information as required by LAMC Section 17.06 B. Additionally, LAMC Section 17.15 B requires that tentative maps provide the proposed building envelope, height, size, and number of units, as well as the approximate location of buildings, driveways, and proposed exterior garden walls. While no residential units are proposed, the VTTM provides the building envelope, height, and approximate location of the building and driveways among other required map elements.

Therefore, as conditioned and in conjunction with the approval of the related entitlement requests, the proposed map would be consistent with the applicable General Plan.

(b) THE DESIGN AND IMPROVEMENT OF THE PROPOSED SUBDIVISION ARE CONSISTENT WITH APPLICABLE GENERAL AND SPECIFIC PLANS.

For purposes of a subdivision, design and improvement is defined by Section 66418 of the Subdivision Map Act and LAMC Section 17.02. Section 66418 of the Subdivision Map Act defines the term "design" as follows: "Design" means: (1) street alignments, grades and widths; (2) drainage and sanitary facilities and utilities, including alignments and grades thereof; (3) location and size of all required easements and rights-of-way; (4) fire roads and firebreaks; (5) lot size and configuration; (6) traffic access; (7) grading; (8) land to be dedicated for park or recreational purposes; and (9) such other specific physical requirements in the plan and configuration of the entire subdivision as may be necessary to ensure consistency with, or implementation of, the general plan or any applicable specific plan. Further, Section 66427 of the Subdivision Map Act expressly states that the "Design and location of buildings are not part of the map review process for condominium, community apartment or stock cooperative projects."

LAMC Section 17.05 enumerates design standards for a tentative map and requires that each map be designed in conformance with the Street Design Standards and in conformance with the General Plan. LAMC Section 17.05 C, third paragraph, further establishes that density calculations include the areas for residential use and areas designated for public uses, except for land set aside for street purposes (net area). LAMC Section 17.06 B and 17.15 lists the map requirements for a tentative tract map and vesting tentative tract map. The design and layout of the VTTM is consistent with the design standards established by the Subdivision Map Act and LAMC regulations.

As indicated in Finding (a), LAMC Section 17.05 C requires that the tentative map be designed in conformance with the zoning regulations of the Project Site. Under concurrent Case No. CPC-2017-469-GPA-VZC-HD-MCUP-SPR, the Applicant is requesting that the Project Site zone be changed from M3-1RIO to C2-2-RIO. The C2 zoning designation generally allows for commercial and residential uses. Height District 2 imposes no height limit but restricts FAR to 6:1.

Contingent upon the approval of the Project's related entitlements, the Project would be conditioned to a maximum 6:1 FAR. As the VTTM for the Project includes the merger and re-subdivision of the Project Site into one master ground lot and 12 airspace lots for a new development would be consistent with these regulations, the VTTM would be consistent with the floor area permitted by the Zone and Height District.

The design and layout of the VTTM is also consistent with the design standards established by the Subdivision Map Act and Division of Land Regulations of the LAMC. The VTTM was distributed to and reviewed by the various City agencies of the Subdivision Committee, including, but not limited to, the Bureau of Engineering (BOE), Department of Building and Safety (LADBS), Grading Division and Zoning Division, Bureau of Street Lighting, Department of Recreation and Parks, that have the authority to make dedication, and/or improvement recommendations. Several public agencies found the subdivision design satisfactory, with imposed improvement requirements and/or conditions of approval. However, BOE reviewed the VTTM for compliance with the Street Design Standards and has recommended improvements to the public rights-of-ways along Colyton St., 4th St., and Hewitt St. in accordance with Avenue III and Industrial Collector Street Standards of the Mobility Plan 2035, respectively, or alternatively with Living Street standards. All necessary street improvements will be made to comply with the Americans with Disabilities Act (ADA) . In addition, the Bureau of Sanitation has reviewed the sewer/storm drain lines serving the subject tract and found no potential problems to structures or maintenance. The LADBS – Grading Division reviewed the site grading and deemed it appropriate provided the Applicant shall, "Comply with any requirements with the Department of Building and Safety, Grading Division for recordation of the final map and issuance of any permit." The Bureau of Street Lighting determined that if BOE requires street widening improvements, street lighting improvements shall include the construction of new street lights on Colyton St., 4th St., and Hewitt St. All Conditions of Approval for the design and improvement of the subdivision are required to be performed prior to the recordation of the tentative map, building permit, grading permit, or certificate of occupancy.

Therefore, as conditioned and in conjunction with the approval of the related entitlement requests, the design and improvements of the proposed subdivision would be consistent with the applicable General Plan.

(c) THE SITE IS PHYSICALLY SUITABLE FOR THE PROPOSED TYPE OF DEVELOPMENT.

The Project Site is currently improved with an existing office building, a vacant building (the bow-truss building), two storage/garage buildings, and surface parking lots that comprise 54,581 square feet. The request before the Deputy Advisory Agency is the VTTM for a Project that includes the demolition of all existing improvements excluding the 7,800 square-foot bow-truss building, and construction of a new building with up to 332,970 square feet of new floor area on a 1.3-acre site. The construction of an 18-story office building would be comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton St. The Project would include a total of 340,770 square feet of floor area, on a 1.3-acre lot, and be restricted to a maximum 6:1 FAR and building height of 292 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking.

There is one non-protected tree located on the Project Site that would be removed as part of the Project. Three non-protected Brisbane Box (*Tristania conferta*) street tress located in the public right-of-way along 4th St. range between three and six inches in diameter; the three trees would be removed as part of the off-site improvements. The removal of the street trees would be subject to the street tree replacement requirements of the City's Urban Forestry Division, subject to the approval of the Board of Public Works. Five new street trees are proposed along 4th St. and Hewitt St. (a total of 10 trees), and two new street trees are proposed along Colyton St. One additional tree is proposed along Colyton St., adjacent to the bow-truss building, but not in the public right-of-way.

The Project Site is located within an urbanized area. The Project Site is not located in a specific plan area Very High Fire Hazard Severity Zone, Designated Hillside Area, Alquist Priolo Zone, Fault Rupture Study Area, Flood Zone, Landslide, Liquefaction, or Tsunami Inundation Zone. The Project Site is located within a Methane Zone and would be required to comply with the LAMC methane seepage regulations for new projects. Prior to operation, all new buildings and paved areas located in the Methane Zone would comply with the City's Methane Mitigation Ordinance and implement the necessary methane controls. These regulations provide minimum requirements to control methane intrusion emanating from geologic formations.

As noted in the Conditions of Approval, the LADBS – Grading Division has deemed the Site appropriate provided the Applicant shall, "Comply with any requirements with the Department of Building and Safety, Grading Division for recordation of the final map and issuance of any permit."

The Phase I Environmental Site Assessment (ESA) completed for the Project Site included a database search which listed the Site on four databases, including Hazardous Waste Information System (HAZNET), Resources Conservation and Recovery Act-Small

Waste Generators (RCRA), Statewide Environmental Evaluation and Planning System Underground Storage Tanks (SWEEPS UST), and California's Facility Inventory Database for Underground Storage Tanks (CA FID UST). As provided in the database records search the HAZNET and RCRA Small Waste Generators listings were due to the generation of photochemicals/photoprocessing waste, which was generated on the Project Site from 1993 to 1995. The HAZNET database also identified the Project Site as generating aqueous solutions with total organic residues less than 10 percent in 1998, waste and mixed oil in 2007, and unspecified aqueous solution in 2008. The SWEEPS UST and CA FID UST listings are associated with the location of at least two former UST's (one 1,000-gallon and one 10,000-gallon) were located on the Project Site. The USTs were removed from the Project Site in 1990, under the permit and oversite of the City of Los Angeles Fire Department (LAFD). The LAFD issued a No Further Action Required Letter for the UST closures on September 12, 1990. Based on the lack of reported spills, leaks, or violations associated with these listings and the No Further Action Required Letter, the Site is not considered to represent a significant environmental concern.

Hazardous materials are not being used or generated by the existing on-site buildings. Any hazardous materials used, or wastes generated by the Project would be consistent with those typically used in commercial developments, such as pesticides for landscaping and cleaning solvents for maintenance.

The analysis determined that development of the Project Site would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Finally, prior to the issuance of any permits, the Project would be required to be reviewed and approved by LADBS and the Fire Department to ensure compliance with building, fire, and safety codes.

Therefore, as conditioned and in conjunction with the approval of the related entitlements and, as conditioned, the Project Site would be physically suitable for the proposed type of development.

(d) THE SITE IS PHYSICALLY SUITABLE FOR THE PROPOSED DENSITY OF DEVELOPMENT.

The General Plan identifies, through its Community and Specific Plans, geographic locations where planned and anticipated densities are permitted. Zoning standards for density are applied to sites throughout the city and are allocated based on the type of land use, physical suitability, and future population growth expected to occur. The adopted Central City North Community Plan designates the Project Site for Heavy Industrial land uses. The Project Site is zoned M3-1-RIO. The M3 zoning designation generally allows for manufacturing and commercial uses. Height District 1 does not impose a maximum height limit but restricts the Site's FAR to 1.5:1. Further, the Project Site is subject to the Central City North Community Plan Area Footnote 6 which states, "For properties designated on zoning maps as Height District Nos. 1, 1L, 1VL, or 1XL (or their equivalent), development exceeding a floor area ratio of 1:5:1 up to 3:1 may be permitted through a zone change height district change procedure, including an environmental clearance."

Under concurrent Case No. CPC-2017-469-GPA-VZC-HD-MCUP-SPR, the Applicant is requesting a 1) a General Plan Amendment to amend the Central City North Community

Plan to re-designate the Project Site from Heavy Industrial to Regional Center Commercial; 2) a Vesting Zone and Height District Change from M3-1-RIO to C2-2-RIO; 3) a Main Conditional Use permit to allow the sale and dispensing of a full line of alcoholic beverages for on-site consumption for up to six establishments; and 4) Site Plan Review for a project resulting in greater than 50,000 new square-feet of nonresidential floor area for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street. The Project will include a total of 340,770 square feet of floor area, comprised of an existing 7,800 square-foot building to remain and a new 332,970 square-foot office building, Sand building height of 292 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking.

In conjunction with the Project's requested entitlements, a maximum 6:1 FAR would be permitted. As conditioned, the proposed merger and re-subdivision of the Project Site into one master ground lot and 12 airspace lots, for a new development would be consistent with these regulations.

The Project vicinity is characterized by a concentration of commercial and manufacturing uses in the form of one to three-story structures. To the north of the Project Site across 4th St. is a one-story automotive repair shop and warehouse. Across 4th Pl. is a seven-story parking structure and a three-story office building. These parcels are designated for Heavy Manufacturing land use and M3-1-RIO zone. To the east of the Project Site across Hewitt St. are one-story commercial and manufacturing uses as well as a surface parking lot. These parcels are designated for Heavy Industrial land use and M3-1-RIO zone. To the south of the Project Site are one- and two-story commercial and manufacturing uses. These parcels are designated for Heavy Industrial land use and M3-1-RIO zone. To the west of the Project Site across Colyton St. are one-story manufacturing uses. These parcels are designated for Heavy Industrial land use and M3-1-RIO zone.

The Project's floor area and massing are appropriately scaled and situated given these uses in the surrounding area. The Project Site is also an infill lot in a developed urban area with adequate infrastructure, and the area is easily accessible via improved streets and highways. Therefore, the Project Site is physically suitable for the proposed density of development.

(e) THE DESIGN OF THE SUBDIVISION AND THE PROPOSED IMPROVEMENTS ARE NOT LIKELY TO CAUSE SUBSTANTIAL ENVIRONMENTAL DAMAGE OR SUBSTANTIALLY AND AVOIDABLY INJURE FISH OR WILDLIFE OR THEIR HABITAT.

The Project Site does not contain wetlands or riparian areas, does not have significant value as a wildlife habitat, and implementation of the Project would not harm protected species. The Project is situated in an established, fully developed commercial corridor, adjacent to a large boulevard, and nearby employment uses. The Project Site is currently developed with an existing office building, a vacant building (the bow-truss building), two storage/garage buildings, and surface parking lots that comprise 54,581 square feet. The Project Site does not contain any natural open spaces with water courses such as streams or lakes within and adjacent to the Project Site, the Project Site and vicinity do not support any riparian or wetland habitat, as defined by Section 404 of the Clean Water Act.

Furthermore, the Project Site is not located in or adjacent to a Biological Resource Area as defined by the City. Moreover, the Project Site and immediately surrounding area are not within or near a designated Significant Ecological Area. The Project Site does not contain any natural open spaces, act as a wildlife corridor, migratory corridors, conflict with a Habitat Conservation Plan, nor possess any areas of significant biological resource value.

With regards to trees, the Project Site has been operating as an urban use for decades. There is one non-protected tree located on the Project Site that would be removed as part of the Project. Three non-protected Brisbane Box (*Tristania conferta*) street tress are located in the public right-of-way along 4th St. The three trees would be removed as part of the off-site improvements which would be subject to the street tree replacement requirements of the City's Urban Forestry Division, subject to the approval of the Board of Public Works. Five new street trees would be planted along 4th St. and Hewitt St. (a total of 10 trees), and two new street trees would be planted along Colyton St. One additional tree is proposed along Colyton St., adjacent to the bow-truss building, but not in the public right-of-way. In addition, the Project vicinity is highly urbanized and does not support habitat for candidate, sensitive, or special status plant species. Therefore, no impacts to candidate, sensitive, or special status plant species would occur.

As noted above, the Project Site is presently improved with a vacant and an occupied commercial building, and does not contain any natural open spaces, act as a wildlife corridor, contain riparian habitat, wetland habitat, or migratory corridors. The Project would not conflict with any protected tree ordinance or Habitat Conservation Plan, nor possess any areas of significant biological resource value. Therefore, the design of the subdivision would not cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

(f) THE DESIGN OF THE SUBDIVISION AND THE PROPOSED IMPROVEMENTS ARE NOT LIKELY TO CAUSE SERIOUS PUBLIC HEALTH PROBLEMS.

The proposed subdivision and subsequent improvements are subject to the provisions of the LAMC (e.g., the Fire Code, Planning and Zoning Code, Health and Safety Code) and the Building Code. Other health and safety related requirements as mandated by law would apply where applicable to ensure the public health and welfare (e.g., asbestos abatement, seismic safety, flood hazard management).

The Project is not located over a hazardous materials site or flood hazard area and is not located on unsuitable soil conditions. As stated above, the Project Site is located within a Methane Zone and would be required to comply with the LAMC methane seepage regulations for new projects. Prior to operation, all new buildings and paved areas located in the Methane Zone would comply with the City's Methane Mitigation Ordinance and implement the necessary methane controls. These regulations provide minimum requirements to control methane intrusion emanating from geologic formations.

The Phase I ESA completed for the Project Site included a database search which listed the Site on four databases, including HAZNET, RCRA, SWEEPS UST, and CA FID UST. As provided in the database records search the HAZNET and RCRA Small Waste Generators listings were due to the generation of photochemicals/photoprocessing waste, which was generated on the Project Site from 1993 to 1995. The HAZNET database also identified the Project Site as generating aqueous solutions with total organic residues less than 10 percent in 1998, waste and mixed oil in 2007, and unspecified aqueous solution in 2008. The SWEEPS UST and CA FID UST listings are associated with the location of at least two former UST's (one 1,000-gallon and one 10,000-gallon) that were located on the Project Site. The USTs were removed from the Project Site in 1990, under the permit and oversite of the LAFD. The LAFD issued a No Further Action Required Letter for the UST closures on September 12, 1990. Based on the lack of reported spills, leaks, or violations associated with these listings and the No Further Action Required Letter, the Site is not considered to represent a significant environmental concern.

Hazardous materials are not being used or generated by the existing on-site buildings. As part of the Phase I ESA, no recognized environmental conditions such as leaks, stains, spills, or distressed vegetation were observed on-site. In addition, no hazardous substances, drums, hazardous waste generation, petroleum products, or other chemical containers were observed.

Regarding seismic safety, with adherence to State and City building requirements, along with the recommendations included the LADBS Grading letter dated December 18, 2017, the subdivision and proposed improvements would not result in serious public health problems related to seismic safety. Furthermore, the Project Site is not located in a Very High Fire Hazard Severity Zone, Designated Hillside Area, Alquist Priolo Zone, Fault Rupture Study Area, Flood Zone, Landslide, Liquefaction, or Tsunami Inundation Zone.

Further, the Project can be adequately served by existing utilities, and the Applicant has paid, or committed to pay, all applicable in lieu fees. The development is required to be connected to the City's sanitary sewer system, where the sewage will be directed to the Hyperion Treatment Plant, which meets Statewide ocean discharge standards. The subdivision will be connected to the public sewer system and would have only a minor incremental increase on the effluent treated by the Hyperion Treatment Plant, which has adequate capacity to serve the project. Moreover, as required by LAMC Section 64.15, further detailed gauging and evaluation would be conducted as part of the required building permit process for the project, including the requirement to obtain final approval of an updated Sewer Capacity Availability Report demonstrating adequate capacity. In addition, Project-related sanitary sewer connections and on-site water and wastewater infrastructure will be designed and constructed in accordance with applicable LASAN and California Plumbing Code standards.

No adverse impacts to the public health or safety would occur as a result of the design and improvement of the site. Therefore, the design of the subdivision and the proposed improvements are not likely to cause serious public health problems.

(g) THE DESIGN OF THE SUBDIVISION AND THE PROPOSED IMPROVEMENTS WILL NOT CONFLICT WITH EASEMENTS ACQUIRED BY THE PUBLIC AT LARGE FOR ACCESS THROUGH OR USE OF PROPERTY WITHIN THE PROPOSED SUBDIVISION.

There are no recorded instruments identifying easements encumbering the Project Site for the purpose of providing public access. The site is surrounded by public streets and private properties that adjoin improved public streets designed and improved for the specific purpose of providing public access throughout the area. The Project Site does not adjoin or provide access to a public resource, natural habitat, public park, or any officially recognized public recreation area. No streams or rivers cross the Project Site. Needed public access for roads and utilities will be acquired by the City prior to recordation of the proposed tract.

Therefore, the design of the subdivision and the proposed improvements would not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision.

(h) THE DESIGN OF THE PROPOSED SUBDIVISION WILL PROVIDE, TO THE EXTENT FEASIBLE, FOR FUTURE PASSIVE OR NATURAL HEATING OR COOLING OPPORTUNITIES IN THE SUBDIVISION. (REF. SECTION 66473.1)

In assessing the feasibility of passive or natural heating or cooling opportunities in the proposed subdivision design, the Applicant has prepared and submitted materials which consider the local climate, contours, configuration of the parcel(s) to be subdivided and other design and improvement requirements.

Providing for passive or natural heating or cooling opportunities would not result in reducing allowable densities or the percentage of a lot which may be occupied by a building or structure under applicable planning and zoning in effect at the time the tentative map was filed.

The topography of the Site has been considered in the maximization of passive or natural heating and cooling opportunities.

In addition, prior to obtaining a building permit, the subdivider shall consider building construction techniques, such as overhanging eaves, location of windows, insulation, exhaust fans; planting of trees for shade purposes and the height of the buildings on the site in relation to adjacent development.

These findings shall apply to both the tentative and final maps for Vesting Tentative Tract Map No. 74745.

These findings shall apply to both the tentative and final maps for VTTM No. 82868.

VINCENT P. BERTONI, AICP
Advisory Agency

Jason McCrea
Deputy Advisory Agency
MZ:MN:JM:KK

Note: This grant is not a permit or license and any permits and/or licenses required by law must be obtained from the proper public agency. If any Condition of this grant is violated or not complied with, then the applicant or their successor in interest may be prosecuted for violating these Conditions the same as for any violation of the requirements contained in the Los Angeles Municipal Code (LAMC).

This determination will become effective after the end of appeal period date on the first page of this document, unless an appeal is filed with the Department of City Planning. An appeal application must be submitted and paid for before 4:30 PM (PST) on the final day to appeal the determination. Should the final day fall on a weekend or legal City holiday, the time for filing an appeal shall be extended to 4:30 PM (PST) on the next succeeding working day. Appeals should be filed early to ensure the Development Services Center (DSC) staff has adequate time to review and accept the documents, and to allow appellants time to submit payment.

An appeal may be filed utilizing the following options:

Online Application System (OAS): The OAS (https://planning.lacity.org/oas) allows entitlement appeals to be submitted entirely electronically by allowing an appellant to fill out and submit an appeal application online directly to City Planning's DSC, and submit fee payment by credit card or e-check.

Drop off at DSC. Appeals of this determination can be submitted in-person at the Metro or Van Nuys DSC locations, and payment can be made by credit card or check. City Planning has established drop-off areas at the DSCs with physical boxes where appellants can drop off appeal applications; alternatively, appeal applications can be filed with staff at DSC public counters. Appeal applications must be on the prescribed forms, and accompanied by the required fee and a copy of the determination letter. Appeal applications shall be received by the DSC public counter and paid for on or before the above date or the appeal will not be accepted.

Forms are available online at http://planning.lacity.org/development-services/forms. Public offices are located at:

Metro DSC (213) 482-7077 201 N. Figueroa Street Los Angeles, CA 90012 planning.figcounter@lacity.org	Van Nuys DSC (818) 374-5050 6262 Van Nuys Boulevard Van Nuys, CA 91401 planning.mbc2@lacity.org	West Los Angeles DSC (**CURRENTLY CLOSED**) (310) 231-2901 1828 Sawtelle Boulevard Los Angeles, CA 90025 planning.westla@lacity.org

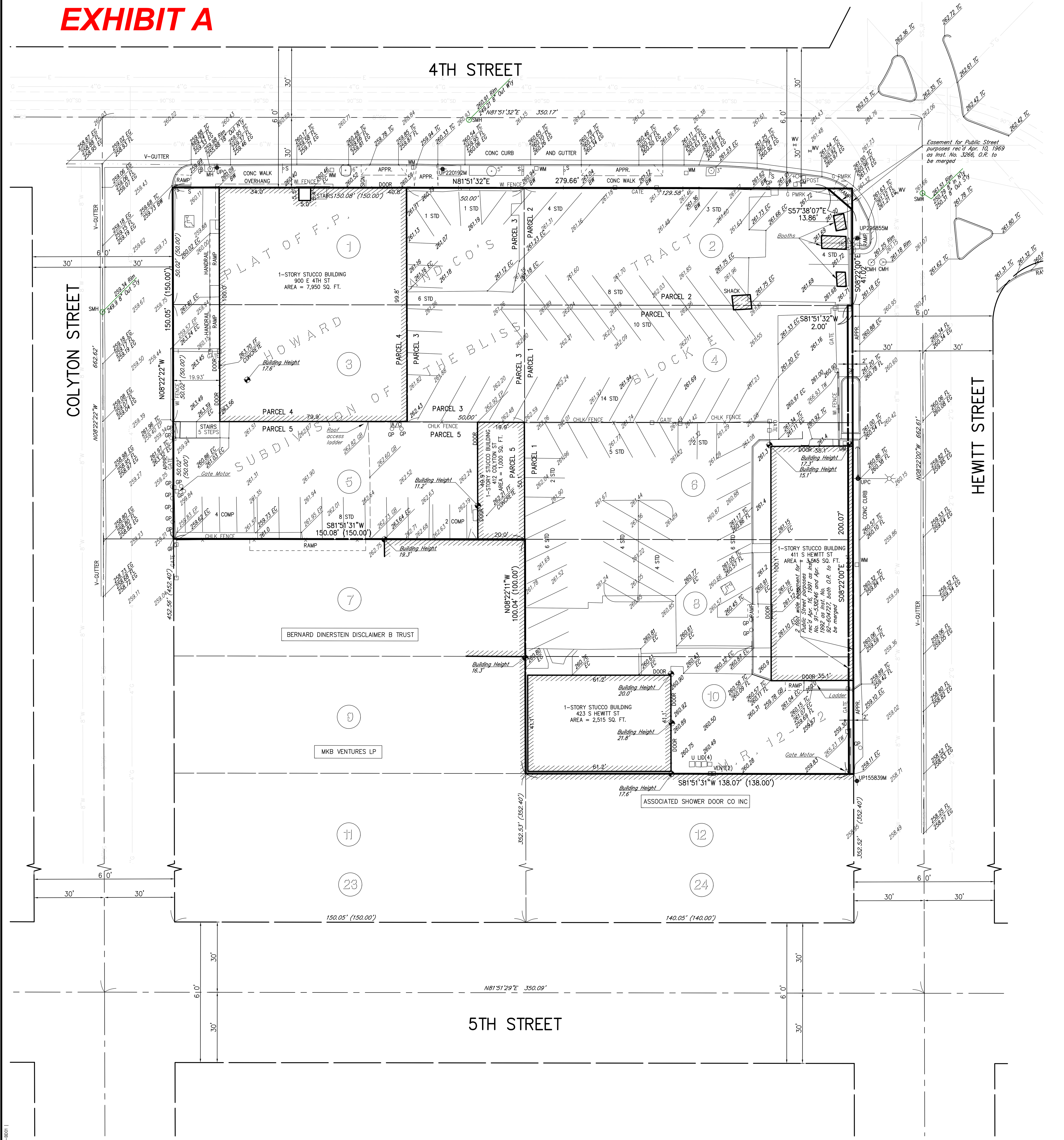
City Planning staff may follow up with the appellant via email and/or phone if there are any questions or missing materials in the appeal submission, to ensure that the appeal package is complete and meets the applicable LAMC provisions.

If you seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1094.5, the petition for writ of mandate pursuant to that section must be filed no later than the 90th day following the date on which the City's decision became final pursuant to California Code of Civil Procedure Section 1094.6. There may be other time limits which also affect your ability to seek judicial review.

Verification of condition compliance with building plans and/or building permit applications are done at the City Planning Metro or Valley DSC locations. An in-person or virtual appointment for Condition Clearance can be made through the City's BuildLA portal (appointments.lacity.org). The applicant is further advised to notify any consultant representing you of this requirement as well.

QR Code to Online Appeal Filing	QR Code to Forms for In-Person Appeal Filing	QR Code to BuildLA Appointment Portal for Condition Clearance

EXHIBIT A



EXISTING CONDITIONS

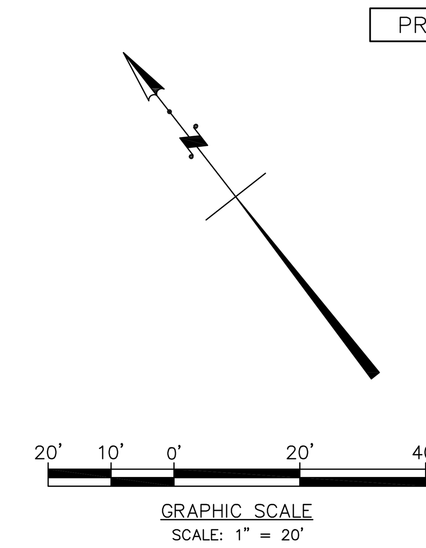
UTILITY INFORMATION

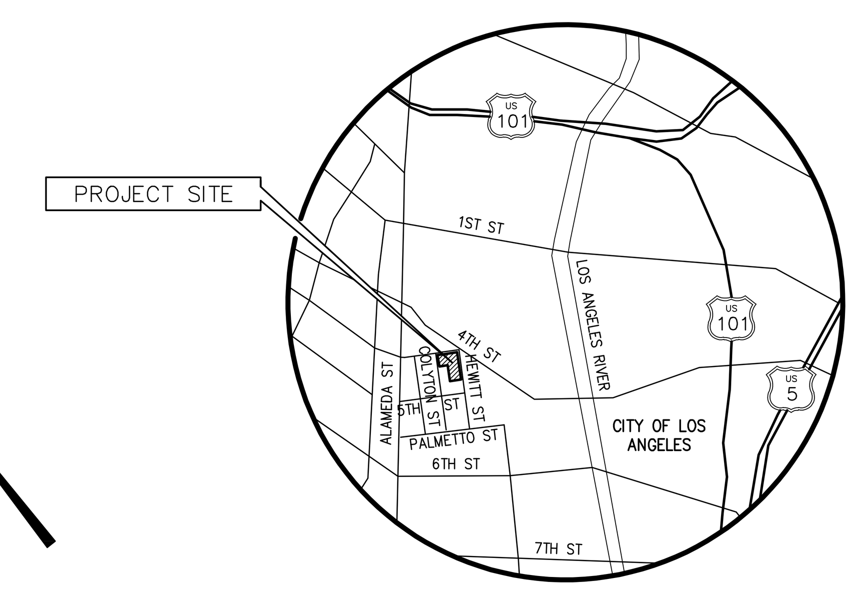
UTILITY	SERVICE BY	TELEPHONE NO.	ADDRESS
POWER	CITY OF LOS ANGELES	(213) 978-0265	200 N SPRING ST, LOS ANGELES, CA
WATER	CITY OF LOS ANGELES	(213) 978-0265	200 N SPRING ST, LOS ANGELES, CA
TELEPHONE			
GAS	THE GAS COMPANY	(800) 427-2200	555 W 5TH ST, LOS ANGELES, CA
STORM DRAIN	CITY OF LOS ANGELES	(213) 978-0265	200 N SPRING ST, LOS ANGELES, CA
SEWER	CITY OF LOS ANGELES	(213) 978-0265	200 N SPRING ST, LOS ANGELES, CA

SUBSTRUCTURE PLAN INDEX			
STORM DRAIN	DRAINAGE MAP #516		
SEWER	WYE MAP 127-5A215		
SUBSTRUCTURE MAP	SUB-92-14		

The only substructure information made available by public agencies and public utilities is their location within public rights-of-way. Therefore no on-site substructures are shown on this map. The location of on-site substructures should be determined and verified from other sources before the beginning of any excavation.

CALL UNDERGROUND SERVICE ALERT (USA) 1 - 800 - 227 - 2600 USA represents many, but not necessarily all, utility and oil companies that have underground lines within the project area. In order to avoid damage to these lines, contact USA two working days prior to digging or excavation. USA will assist in identifying those companies that they represent which have utility lines in the area and contacting the respective companies they represent to have those lines marked on the ground.





VICINITY MAP

NOT TO SCALE

LEGAL DESCRIPTION

PARCEL 1: (APN 5163-022-022 AND 5163-022-023)

LOTS 4, 6, 8 AND 10 IN BLOCK "E" OF F. P. HOWARD AND CO'S SUBDIVISION OF THE BLISS TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE 42 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 2: (APN 5163-022-001)

LOT 2 IN BLOCK "E" OF F. P. HOWARD AND CO'S SUBDIVISION OF THE BLISS TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE 42 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 3: (APN 5163-22-002)

THE EASTERLY 50 FEET OF LOTS 1 AND 3 IN BLOCK "E" OF F. P. HOWARD AND CO'S SUBDIVISION OF THE BLISS TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE 42 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 4: (APN 5163-022-003)

THE WESTERLY 100 FEET OF LOTS 1 AND 3 IN BLOCK "E" OF F. P. HOWARD AND CO'S SUBDIVISION OF THE BLISS TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE 42 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 5: (APN 5163-022-005)

LOT 5 IN BLOCK "E" OF F. P. HOWARD AND CO'S SUBDIVISION OF THE BLISS TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE 42 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 5163-022-001, 5163-022-002, 5163-022-003, 5163-022-005, 5163-022-022, AND 5163-022-023

LEGEND

. . . . PROPERTY/BOUNDARY LINE
. . . . STREET R/W LINE
. . . . CURB LINE (FROM 1"=20' ON TO 1"=200')
. . . . CURB LINE (1"=10', 1"=8', 1"=16')
. . . . CENTER LINE
. . . . FLOW LINE
. . . . LOT LINE/PARCEL LINE
W . . . . EASEMENT LINE (W=WIDTH)
100 . . . . CONTOUR LINE
. . . . BUILDING FOOT PRINT LINE
. . . . OVERHANG LINE
. . . . CHAIN LINK FENCE LINE
. . . . WROUGHT IRON FENCE LINE
. . . . GUARD RAIL
. . . . WALL
. . . . EDGE OF ASPHALT PAVING
CB . . . . CATCH BASIN W/ACCESS HOLE
MH . . . . MANHOLE (SEWER, STORM DRAIN, POWER, TELE.)
UP/PP/TP . . . . POWER POLE (PP)/TELEPHONE POLE (TP) UTILITY POLE (UP)
. . . . SIGN (ALL KINDS)
. . . . STREET LIGHT
. . . . TRAFFIC SIGNAL
. . . . TRAFFIC SIGNAL W/STREET LIGHT
. . . . YARD LIGHT
. . . . FIRE DEPARTMENT CONNECTION
. . . . FIRE HYDRANT
DS . . . . DOWNSPOUT
FDC . . . . FIRE DEPARTMENT CONNECTION
PIV . . . . POST INDICATOR VALVE
. . . . DIRECTION OF WATER DRAINAGE FLOW
PM . . . . PARKING METER
GM/WM . . . . GAS/WATER METER
GV/WV . . . . GAS/WATER VALVE
EPB/SLPB/TSPB/UPB . . ELEC./STREET LIGHT/TRAFFIC/UNKNOWN PULL BOX
. . . . TREE IN WELL W/TRUNK DIAMETER
PL . . . . PLANTER
GP . . . . GUARD POST
APPR. . . . . APPROACH (DRIVEWAY)
BFP . . . . BACKFLOW PREVENTER
CO . . . . CLEAN OUT
CHLK . . . . CHAINLINK (FENCE/GATE)
WI . . . . WROUGHT IRON (FENCE/GATE)
. . . . BENCHMARK
123.4 . . . . TOPOGRAPHIC SPOT ELEVATION, NO LEADER
BW . . . . BACK OF WALK ELEVATION
EC . . . . EDGE OF CONCRETE ELEVATION
EG . . . . EDGE OF GUTTER ELEVATION
FL . . . . FLOW LINE ELEVATION
EP . . . . EDGE OF PAVEMENT ELEVATION
TC . . . . TOP OF CURB ELEVATION
TG . . . . TOP OF GRATE ELEVATION
TW . . . . TOP OF WALL ELEVATION
TF . . . . TOP OF FOOTING ELEVATION
RIM . . . . MANHOLE RIM ELEVATION
INV . . . . MANHOLE INVERT ELEVATION
ER . . . . ELEC RISER
EVT . . . . ELEC VAULT
CD . . . . CURB DRAIN
DI . . . . DRAIN INLET
HB . . . . HOSE BIB
WR . . . . WATER RISER
GB . . . . GRADE BREAK
AD . . . . AREA DRAIN
DS . . . . DOWN SPOUT
2 . . . . RECORD LOT/PARCEL NUMBER

LOT INDEX

LOT 1: MASTER LOT
LOT 2: MUSEUM
LOT 3: GUEST/RETAIL PARKING
LOT 4: UTILITY FACILITIES
LOT 5: PLAZA
LOT 6: LOADING DOCK
LOT 7: TENANT AMENITY/TENANT OFFICES
LOT 8: RETAIL
LOT 9: RETAIL
LOT 10: RETAIL
LOT 11: RETAIL
LOT 12: RETAIL
LOT 13: TENANT PARKING AND UPPER PLAZA

SHEET INDEX

SHEET 1: EXISTING CONDITIONS AND TRACT NOTES
SHEET 2: LOT LAYOUT – BASEMENT LEVELS 3, 2, AND 1; GROUND LEVEL
SHEET 3: LOT LAYOUT – LEVELS 2 THROUGH 16
SHEET 4: ISOMETRIC VIEW

LOS ANGELES DEPT. OF CITY PLANNING
SUBMITTED FOR FILING
☒ PARCEL MAP
JUL 1 1 2023
☒ REVISED MAP ☐ EXTENSION OF TIME
☐ FINAL MAP UNIT ☐ MODIFIED
DEPUTY ADVISORY AGENCY

VESTING TENTATIVE TRACT NOTES:

OWNER/
SUBDIVIDER . . . . LIG-900, 910 AND 926 E. 4TH ST., 405-411 S. HEWITT ST., LLC
ATTN: DILIP K. BHAVNANI
900 E. 4TH ST
LOS ANGELES, CA 90013
DILIP@SUNSCOPEUSA.COM

SURVEYOR/ENGINEER . . . . . . PSOMAS
DOUGLAS R. HOWARD, PLS 6169
555 SOUTH FLOWER ST., SUITE 4300
LOS ANGELES, CA 90071
(213) 223-1400
dhoward@psomas.com

ADDRESS . . . . 900, 910 AND 926 E. 4TH ST., 405-411 S. HEWITT ST.
LOS ANGELES, CA 90013

PROJECT NAME . . . . 4TH AND HEWITT
401 S. HEWITT STREET
LOS ANGELES, CA 90013

NOTES

1. PROJECT SYNOPSIS:
   THIS PROJECT CONSISTS OF 12 AIRSPACE LOTS AND 1 MASTER LOT
2. PARKING: THE PROJECT WILL PROVIDE 660 SPACES.
3. APN: 5163-022-001, -002, -003, -005, -022, -023
4. THERE ARE 4 EXISTING BUILDINGS ON SITE; 3 TO BE REMOVED, 1 TO REMAIN.
5. THERE ARE NO PROTECTED TREES ON THE SUBJECT PROPERTY..
6. ZONING
   EXISTING: M3-1-RIO (HEAVY INDUSTRIAL)
   PROPOSED: C2-2-RIO (COMMERCIAL)
7. USE
   EXISTING: SURFACE PARKING, COMMERCIAL, MUSEUM
   PROPOSED: COMMERCIAL (OFFICE, RETAIL)
8. PROPOSED HEIGHT: 300 FEET
9. COMMUNITY PLAN: CENTRAL CITY NORTH
10. GENERAL PLAN DESIGNATION: EXISTING: HEAVY MANUFACTURING/INDUSTRIAL
    PROPOSED: REGIONAL CENTER, COMMERCIAL
11. DISTRICT MAP: 127-5A215
12. THOMAS GUIDE: 634-G5, 634-H5
13. AREA
    BASED ON MEASURED BEARINGS AND DISTANCES AS SHOWN HEREON, THE AREA IS:

    GROSS: 80,068 SQ. FT. = 1.84 ACRES (EXISTING CONDITIONS)
    FEE: 57,103 SQ. FT. = 1.31 ACRES (EXISTING CONDITIONS)
    NET: 57,325 SQ. FT. = 1.32 ACRES (EXISTING CONDITIONS)
    F.A.R. AREA: 56,959 SQ. FT. = 1.31 ACRES (PROPOSED CONDITIONS)

    WHERE "GROSS" IS DEFINED AS THE AREA OF THE SUBJECT FEE PARCEL AND AREA OUT TO THE CENTERLINE OF ADJACENT STREETS AS DESCRIBED HEREON; "FEE" IS DEFINED AS THE ATTACHED LEGAL DESCRIPTION OF THE PROPERTY TO BE SUBDIVIDED, BEING THE "GROSS" AREA MINUS EXISTING STREET AND ROADS; "NET" IS DEFINED AS THE "FEE" AREA MINUS EXISTING STREET DEDICATIONS. F.A.R., FLOOR AREA RATIO IS BASED PROPOSED MERGER OF AN EXISTING 2 FOOT STREET EASEMENT ALONG HEWITT STREET, DEDICATION OF A 15' X 15' CORNER CUT AT COLYTON STREET AND TWO LIMITED HEIGHT DEDICATIONS, ONE AT 4TH STREET, THE OTHER A 3 FOOT SIDEWALK DEDICATION AND 15' X 15' CORNER CUT AT 4TH AND HEWITT STREET.
14. FLOOD ZONE: SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 06037C1636F, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, SEPTEMBER 26, 2008.
15. STREET DESIGNATIONS
    E 4TH ST (AVENUE III): RIGHT OF WAY WIDTH = 72 FT
    COLYTON ST (COLLECTOR): RIGHT OF WAY WIDTH = 66 FT
    HEWITT ST (COLLECTOR): RIGHT OF WAY WIDTH = 66 FT
    STREET WIDTH INFORMATION PER CITY OF LOS ANGELES "MOBILITY PLAN 2035", DATED SEPTEMBER 7, 2016.
16. REQUEST THAT THE CITY WAIVE THE REQUIRED 3 FOOT ROADWAY DEDICATION FOR 4TH ST.
17. REQUEST THAT THE CITY WAIVE THE REQUIRED 2 FOOT AND 4 FOOT ROADWAY DEDICATIONS FOR HEWITT STREET.
18. REQUEST THAT THE CITY WAIVE THE REQUIRED 4 FOOT DEDICATION FOR COLYTON STREET.
19. TITLE INFORMATION BASED ON STEWART TITLE COMPANY PRELIMINARY TITLE REPORT ORDER NO. 01180-174482, DATED JUNE 29, 2015.
20. EXISTING PUBLIC STREET EASEMENT RECORDED APRIL 10, 1969 AS INSTRUMENT NO. 3266 AT 4TH AND HEWITT TO BE MERGED AND RESUBDIVIDED WITH THE RECORDING OF THE FINAL MAP.
21. A 15 FOOT BY 15 FOOT CORNER CUT AT 4TH AND COLYTON STREETS FOR STREET PURPOSES IS BEING DEDICATED BY THIS MAP.
22. REQUEST ABILITY TO CONSOLIDATE LOTS.
23. FINAL LOTS TO BE BASED ON ARCHITECTURAL PLANS.
24. REQUEST ABILITY TO FILE MULTIPLE PHASED FINAL MAPS.
25. LOT SIZES AND CONFIGURATIONS ARE ILLUSTRATIVE ONLY AND WILL BE FINALIZED ON THE FINAL MAP.
26. PROPOSED SETBACKS ARE ILLUSTRATIVE ONLY AND WILL BE FINALIZED ON THE FINAL MAP.
27. UTILITIES ARE AVAILABLE AND SERVICING THE SITE.
28. SEWAGE DISPOSAL AND DRAINAGE TO BE PROVIDED BY THE CITY SYSTEMS.
29. PROPERTY IS NOT IN A SPECIAL HAZARD AREA.
30. PROPERTY IS NOT IN A HILLSIDE GRADING AREA.
31. PROPERTY IS NOT IN A FLOODWAY.
32. PROPERTY IS NOT IN A MUD-PRONE AREA.
33. PROPERTY IS IN A METHANE ZONE.
34. PROPERTY IS NOT IN A GEOLOGICALLY HAZARDOUS ZONE.
35. REQUEST IS MADE FOR A HAUL ROUTE.

XRef List: V-UT01 | TB-1TT01 | V-GS01-1TM | V-BD01

SEAL: PROFESSIONAL LAND SURVEYOR DOUGLAS R. HOWARD No. 6169 STATE OF CALIFORNIA 6/21/2023

DESIGNED: DLR
DRAFTED: DLR
CHECKED: DRH

REV	DATE	DESCRIPTION	BY	APP'D
3	06/20/23	ADDED NOTES REGARDING STREET DEDICATIONS/MERGER	DRH	DRH
2	06/13/23	UPDATED ARCH. DESIGN-ADDED 3 FT SIDEWALK DEDICATION	DRH	DRH
1	12/12/18	ARCHITECTURAL DESIGN REVISION – 12/07/18	LTL	DRH

BENCHMARK: CITY OF LOS ANGELES BENCHMARK NO. 12-03812
WIRE SPK IN S CURB 4TH ST; 116.7 FT W OF HEWITT ST; 1.7 DT W OF CONC APRON FIRST DRIVEWAY W OF HEWITT ST.
ELEVATION 260.784 FEET ADJUSTMENT 2000 (NAVD88)
PATH/PLOT DATE:
Jun. 21, 2023 – 07:20:56 DWG Name: W:\1LIG060100\SURVEY\SUBDIVISION\TENTATIV\PL\PL-1TT01.dwg Updated By: dhoward

PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223-1400 (213) 223-1444 (FAX)
www.psomas.com

VESTING TENTATIVE TRACT FOR MERGER, VACATION, AND RE-SUBDIVISION PURPOSES:

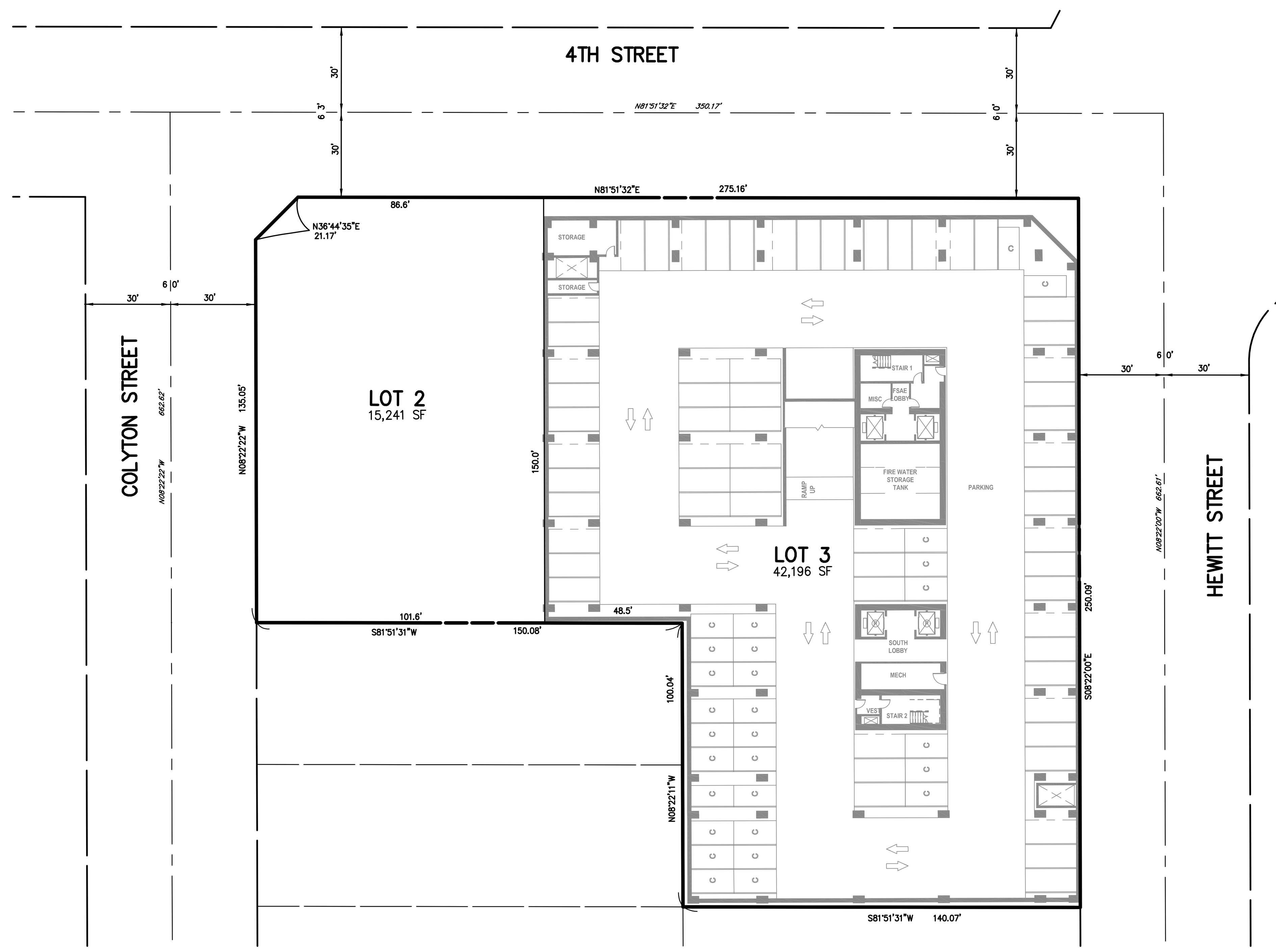
VESTING TENTATIVE TRACT NO. 74745

LIG-900, 910, 926 E. 4TH ST,
405, 144 S. HEWITT ST, LLC

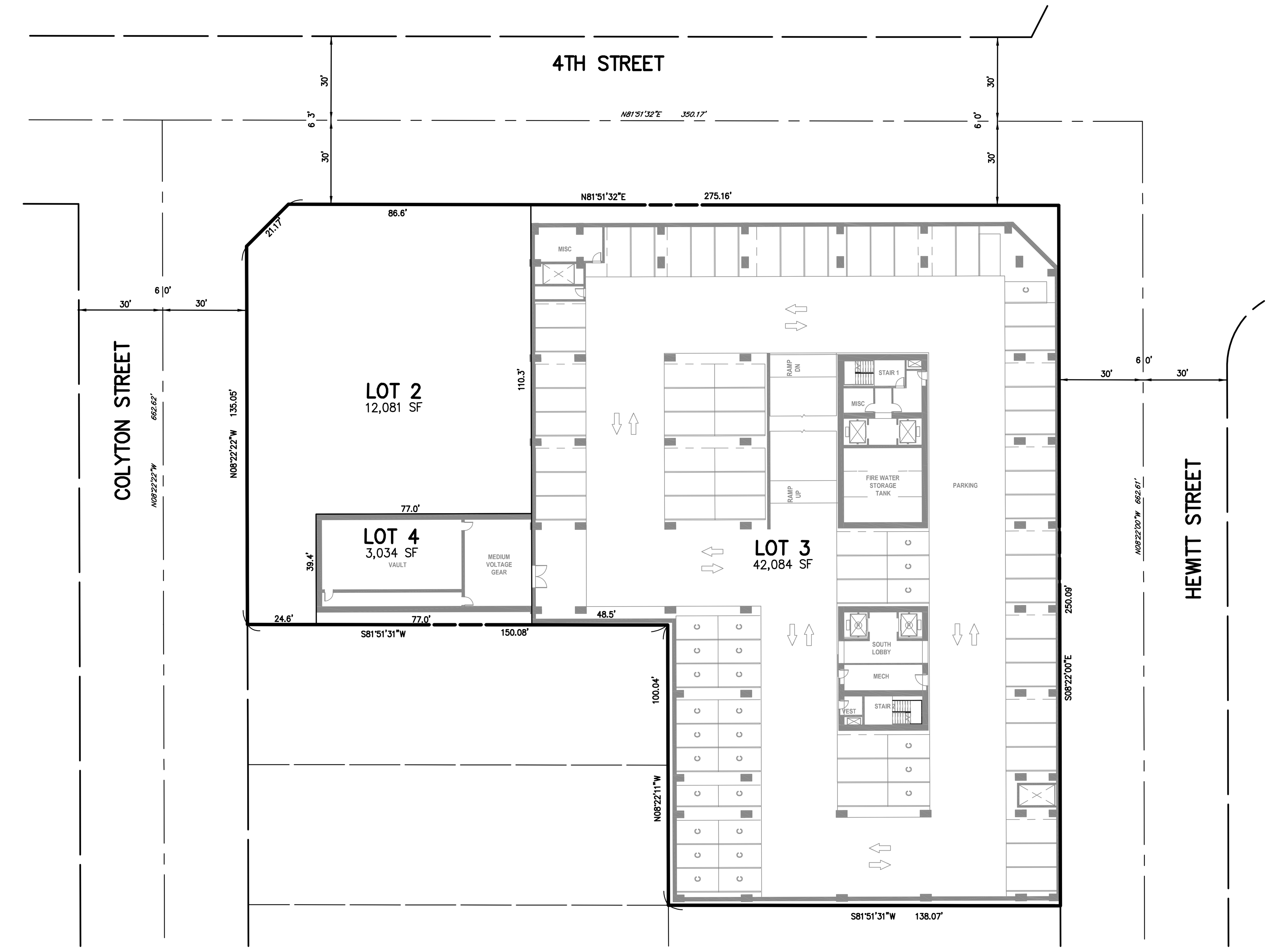
IN THE CITY OF LOS ANGELES COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DATE: JANUARY 6, 2017
SCALE: 1" = 20'
PROJECT NUMBER: 1LIG060100, TASK 102
SHEET 1 OF 4

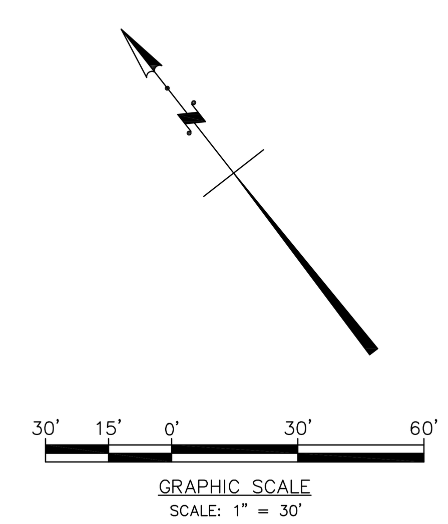
PROPOSED CONDITIONS

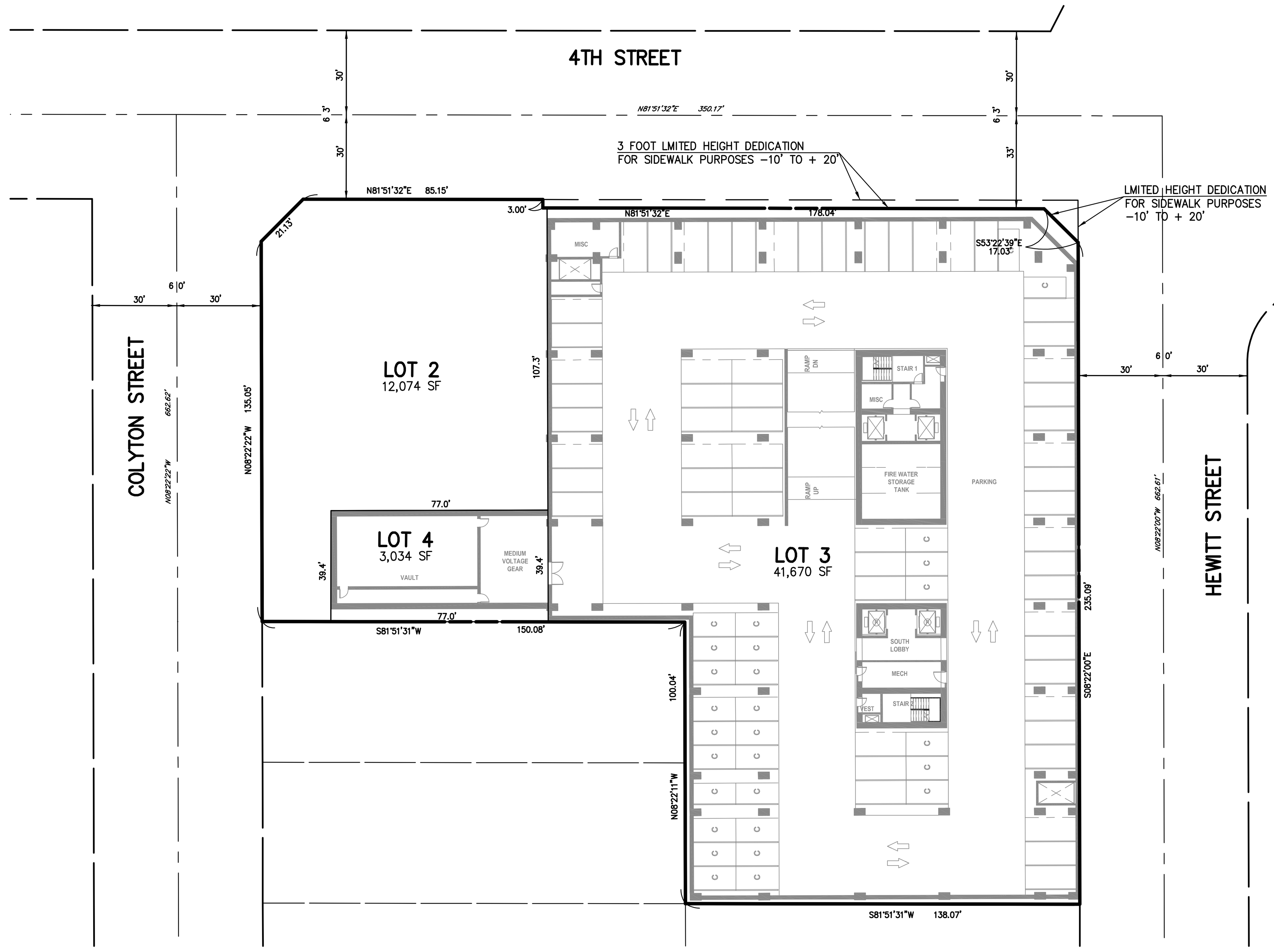


BASEMENT 3
UPPER ELEVATION: -20.0'
LOWER ELEVATION: -29.0'

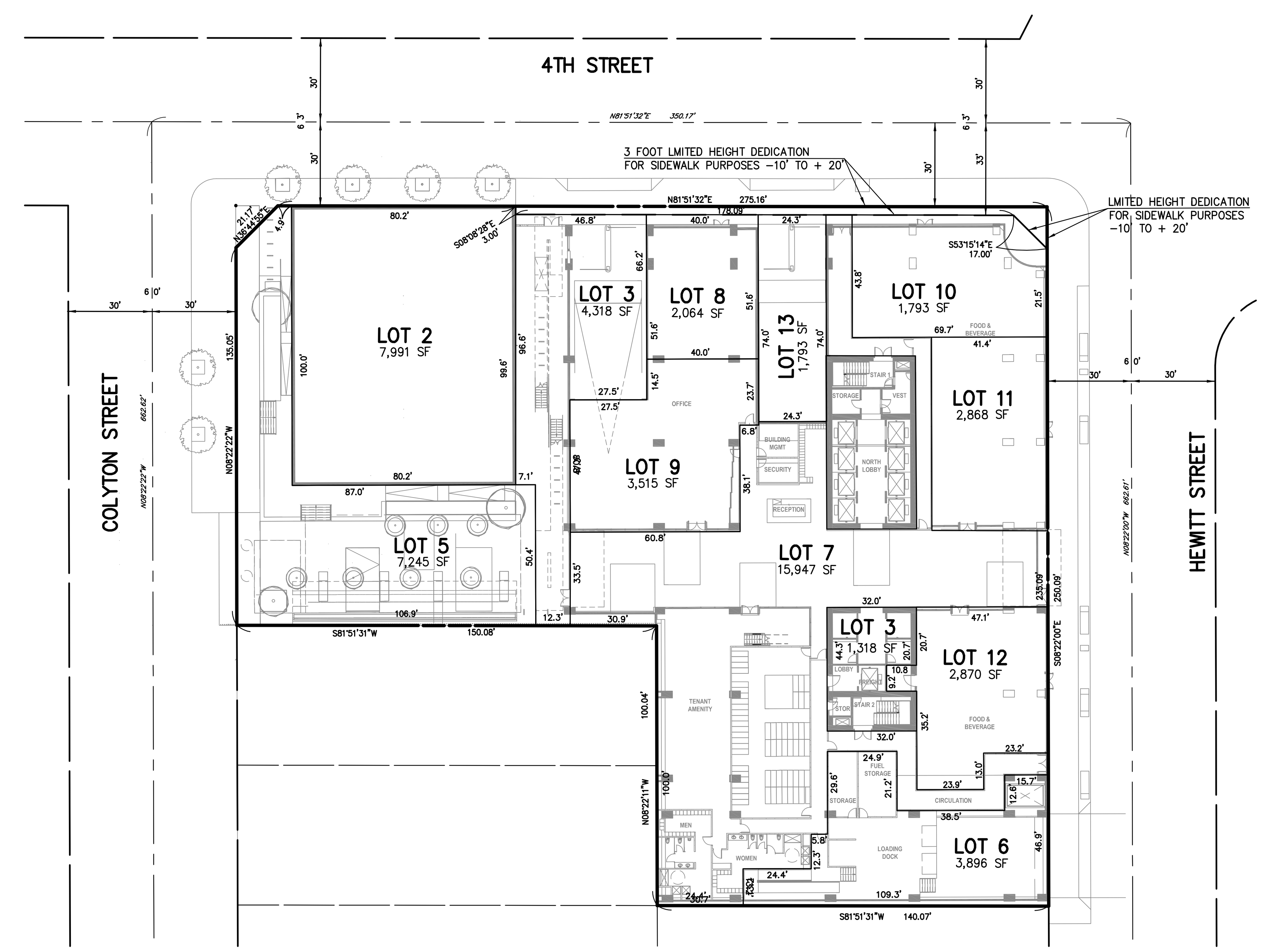


BASEMENT 2
UPPER ELEVATION: -11.0'
LOWER ELEVATION: -20.0'





BASEMENT 1
UPPER ELEVATION: 0.0'
LOWER ELEVATION: -11.0'



LEVEL 1
UPPER ELEVATION: 20.0'
LOWER ELEVATION: 0.0'

SEAL		REV	DATE	DESCRIPTION	BY	APP'D
PROFESSIONAL LAND SURVEYOR DOUGLAS R. HOWARD No. 6169 STATE OF CALIFORNIA	DESIGNED DLR					
	DRAFTED DLR					
		3	06/20/23	ADDED NOTES REGARDING STREET DEDICATIONS/MERGER	DRH	DRH
	CHECKED DRH	2	06/13/23	UPDATED ARCH. DESIGN—ADDED 3 FT SIDEWALK DEDICATION	DRH	DRH
		1	12/12/18	ARCHITECTURAL DESIGN REVISION – 12/07/18	LTL	DRH

BENCHMARK CITY OF LOS ANGELES BENCHMARK NO. 12-03812

WIRE SPK IN S CURB 4TH ST; 116.7 FT W OF HEWITT ST;
1.7 DT W OF CONC APRON FIRST DRIVEWAY W OF HEWITT ST.

ELEVATION 260.784 FEET ADJUSTMENT 2000 (NAVD88)

PATH/PLOT DATE:
Jun. 21, 2023 – 07:34:11 DWG Name: W:\1LIG060100\SURVEY\SUBDIVISION\TENTATIV\PL\PL-1TT02.dwg Updated By: dhoward

PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223-1400 (213) 223-1444 (FAX)
www.psomas.com

VESTING TENTATIVE TRACT FOR MERGER, VACATION, AND RE-SUBDIVISION PURPOSES:

VESTING TENTATIVE TRACT NO. 74745

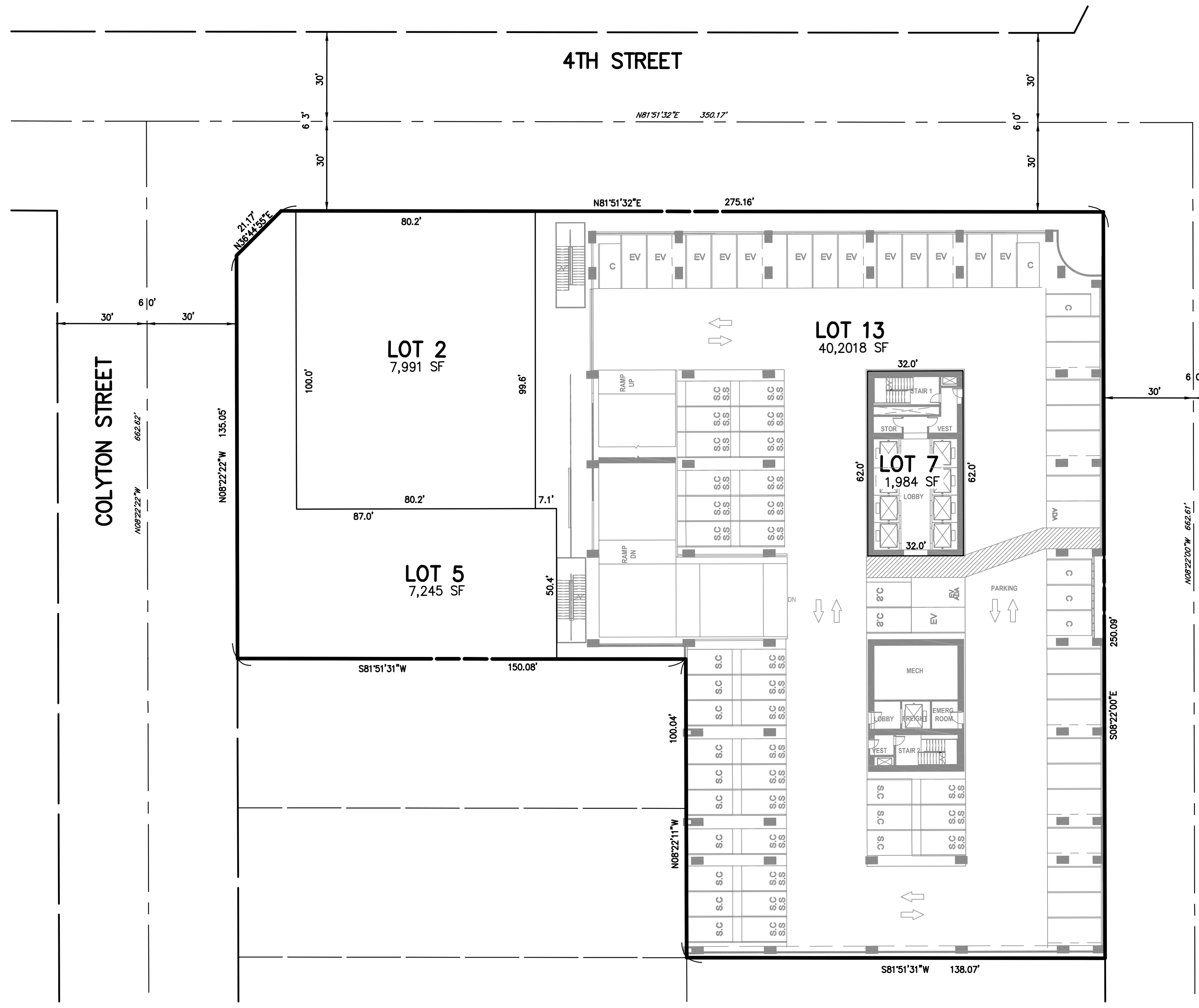
LIG-900, 910, 926 E. 4TH ST,
405, 144 S. HEWITT ST, LLC

IN THE CITY OF LOS ANGELES COUNTY OF LOS ANGELES STATE OF CALIFORNIA

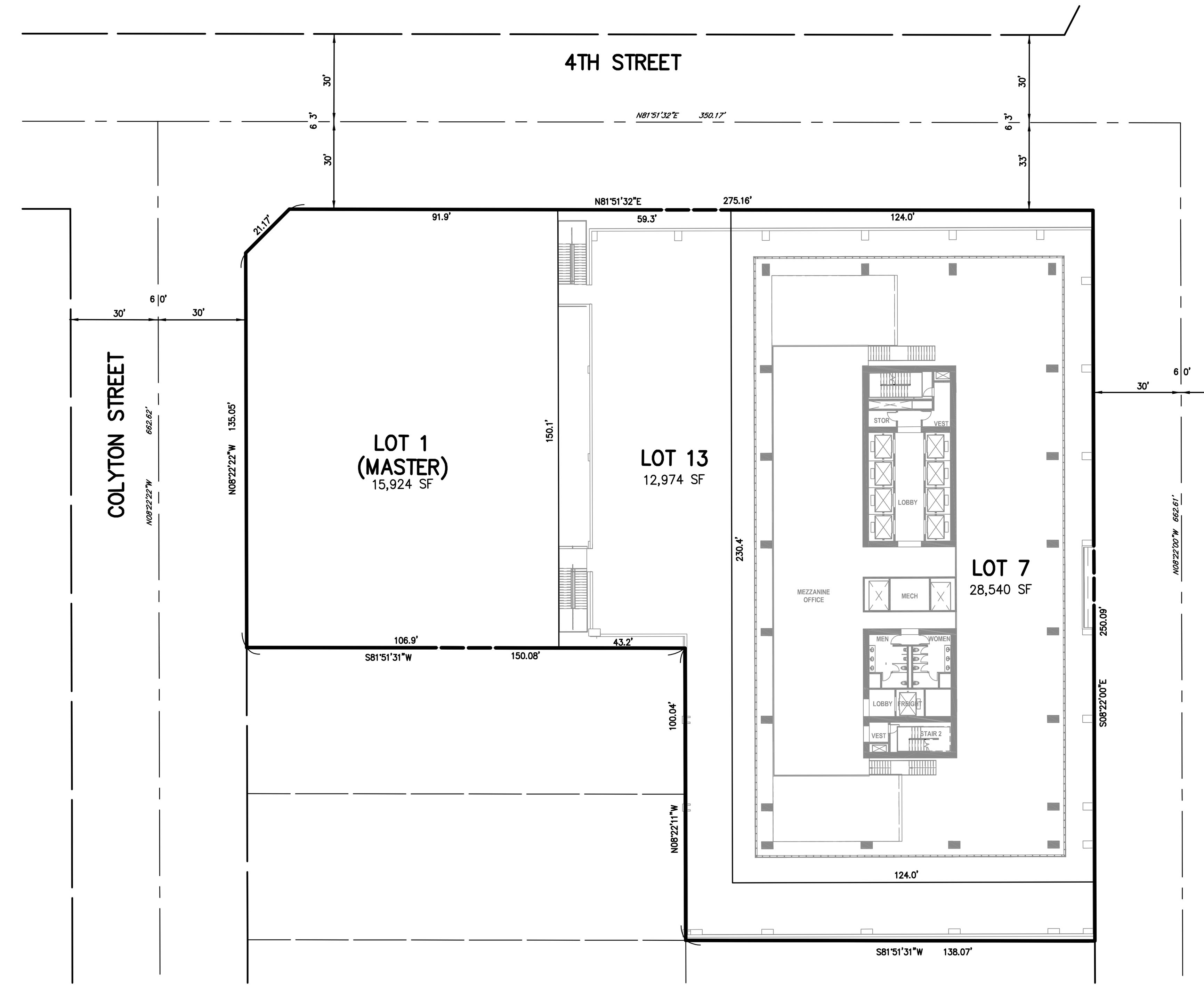
DATE: JANUARY 6, 2017
SCALE: 1" = 30'
PROJECT NUMBER: 1LIG060100, TASK 102
SHEET 2 OF 4

XRef List:| TB-1TT01 | GROUND LEVEL | LEVEL B3 | LEVEL B2 | LEVEL B1 |

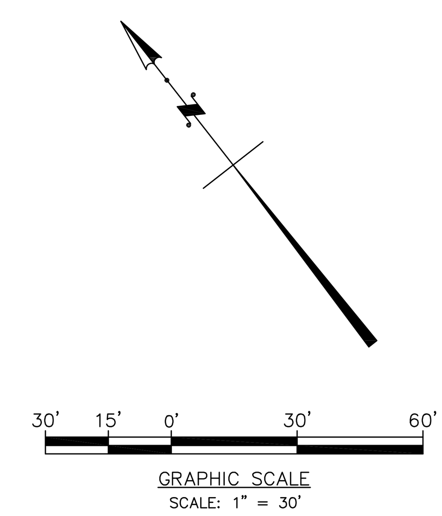
PROPOSED CONDITIONS

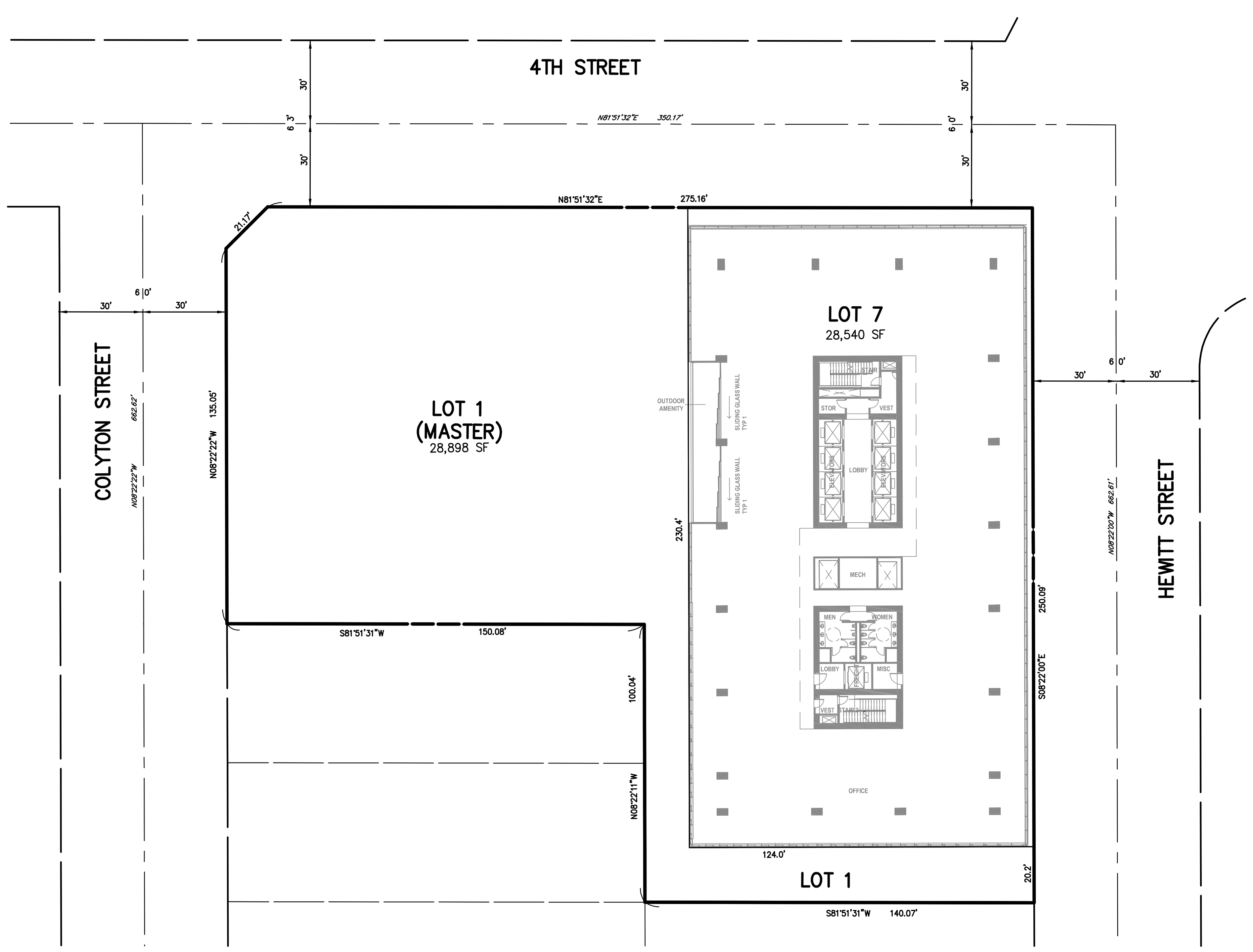


LEVEL 2 – 5
UPPER ELEVATION: 80.0'
LOWER ELEVATION: 20.0'



LEVEL 6
UPPER ELEVATION: 95.0'
LOWER ELEVATION: 80.0'





LEVELS 7 – 19
UPPER ELEVATION: 300.0'
LOWER ELEVATION: 95.0'

SEAL		REV	DATE	DESCRIPTION	BY	APP'D
PROFESSIONAL LAND SURVEYOR DOUGLAS R. HOWARD No. 6169 STATE OF CALIFORNIA	DESIGNED DLR					
	DRAFTED DLR	3	06/20/23	ADDED NOTES REGARDING STREET DEDICATIONS/MERGER	DRH	DRH
		2	06/13/23	UPDATED ARCH. DESIGN-ADDED 3 FT SIDEWALK DEDICATION	DRH	DRH
	CHECKED DRH	1	12/12/18	ARCHITECTURAL DESIGN REVISION – 12/07/18	LTL	DRH

BENCHMARK CITY OF LOS ANGELES BENCHMARK NO. 12–03812
WIRE SPK IN S CURB 4TH ST; 116.7 FT W OF HEWITT ST; 1.7 DT W OF CONC APRON FIRST DRIVEWAY W OF HEWITT ST.
ELEVATION 260.784 FEET ADJUSTMENT 2000 (NAVD88)
PATH/PLOT DATE:
Jun. 20, 2023 – 13:48:27 DWG Name: W:\1LIG060100\SURVEY\SUBDIVISION\TENTATIV\PL\PL-1TT03.dwg Updated By: dhoward

PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223–1400 (213) 223–1444 (FAX)
www.psomas.com

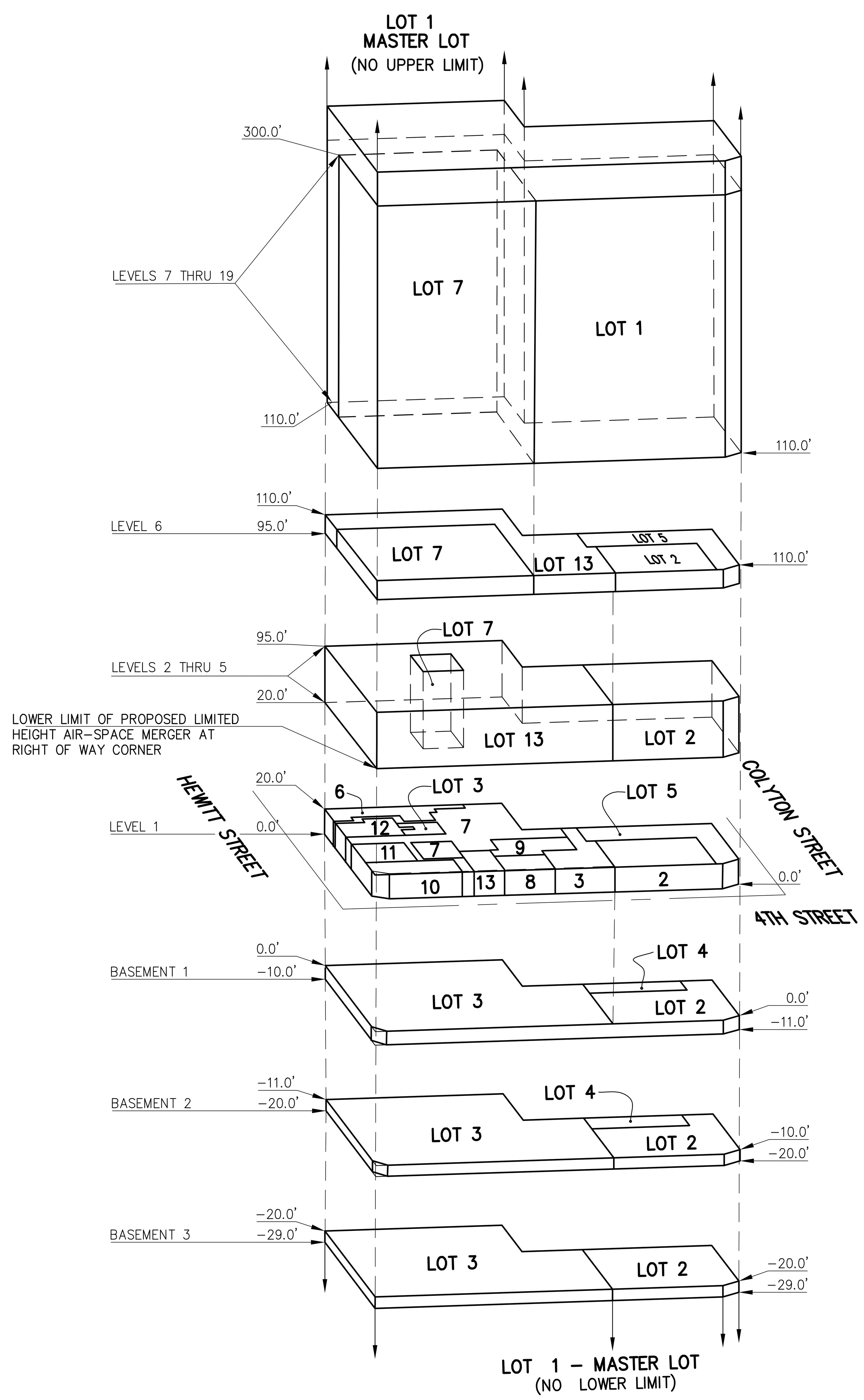
VESTING TENTATIVE TRACT FOR MERGER, VACATION, AND RE–SUBDIVISION PURPOSES:

VESTING TENTATIVE TRACT NO. 74745

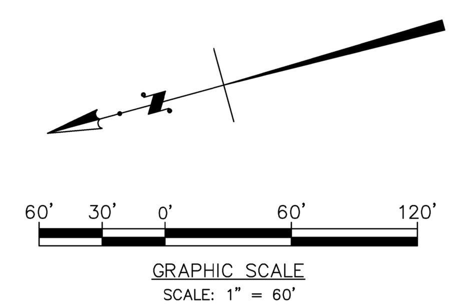
LIG–900, 910, 926 E. 4TH ST,
405, 144 S. HEWITT ST, LLC

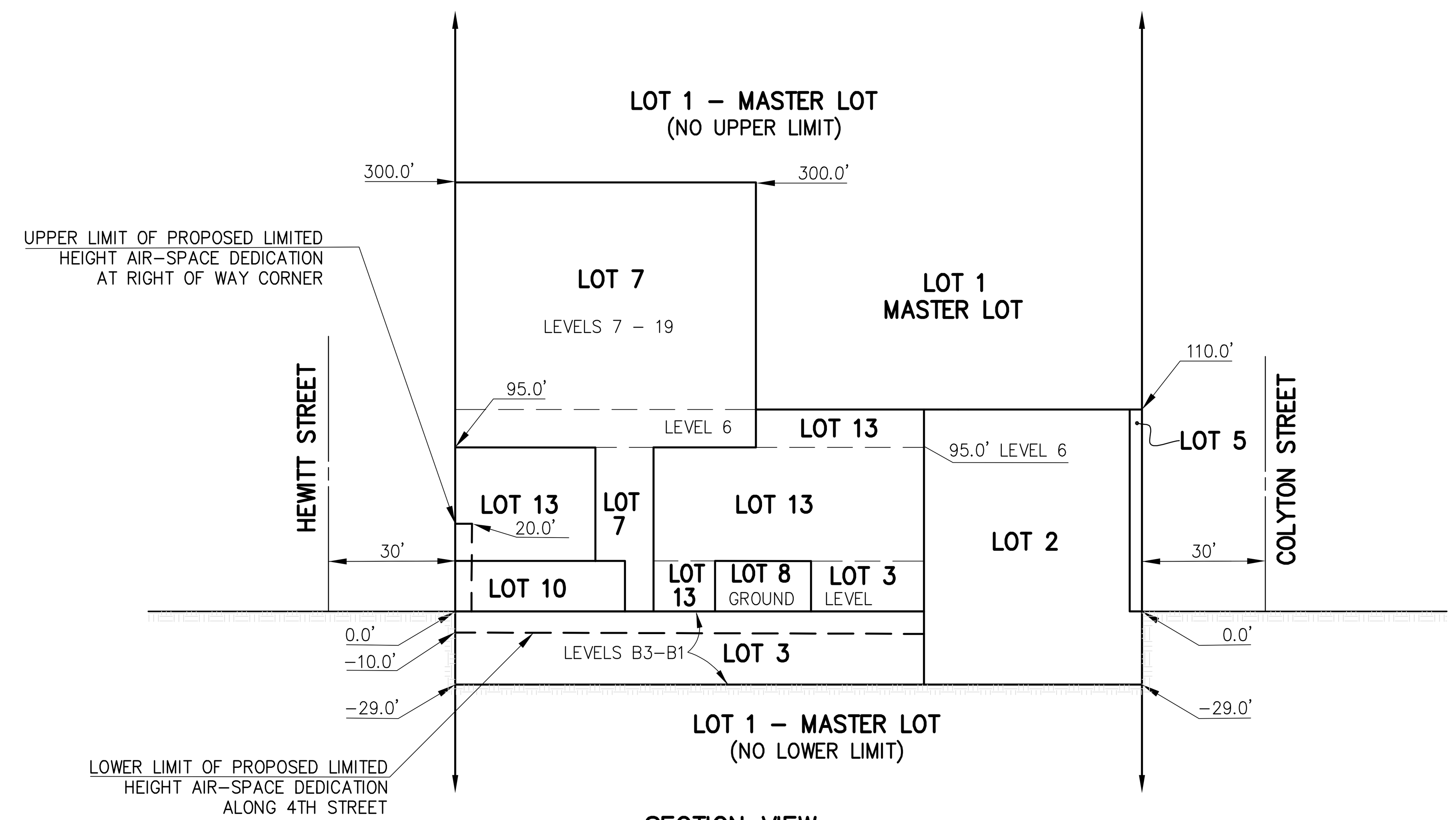
IN THE CITY OF LOS ANGELES COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DATE: JANUARY 6, 2017
SCALE 1" = 30'
PROJECT NUMBER 1LIG060100, TASK 102
SHEET 3 OF 4



ISOMETRIC VIEW





SECTION VIEW
NORTH ELEVATION
(1"=40')

SEAL: PROFESSIONAL LAND SURVEYOR DOUGLAS R. HOWARD No. 6169 STATE OF CALIFORNIA

DESIGNED: DLR
DRAFTED: DLR
CHECKED: DRH

REV	DATE	DESCRIPTION	BY	APP'D
	06/20/23	ADDED NOTES REGARDING STREET DEDICATIONS/MERGER	DRH	DRH
	06/13/23	UPDATED ARCH. DESIGN-ADDED 3 FT SIDEWALK DEDICATION	DRH	DRH
	12/12/18	ARCHITECTURAL DESIGN REVISION - 12/07/18	LTL	DRH

BENCHMARK: CITY OF LOS ANGELES BENCHMARK NO. 12-03812
WIRE SPK IN S CURB 4TH ST; 116.7 FT W OF HEWITT ST; 1.7 DT W OF CONC APRON FIRST DRIVEWAY W OF HEWITT ST.
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PATH/PLOT DATE:

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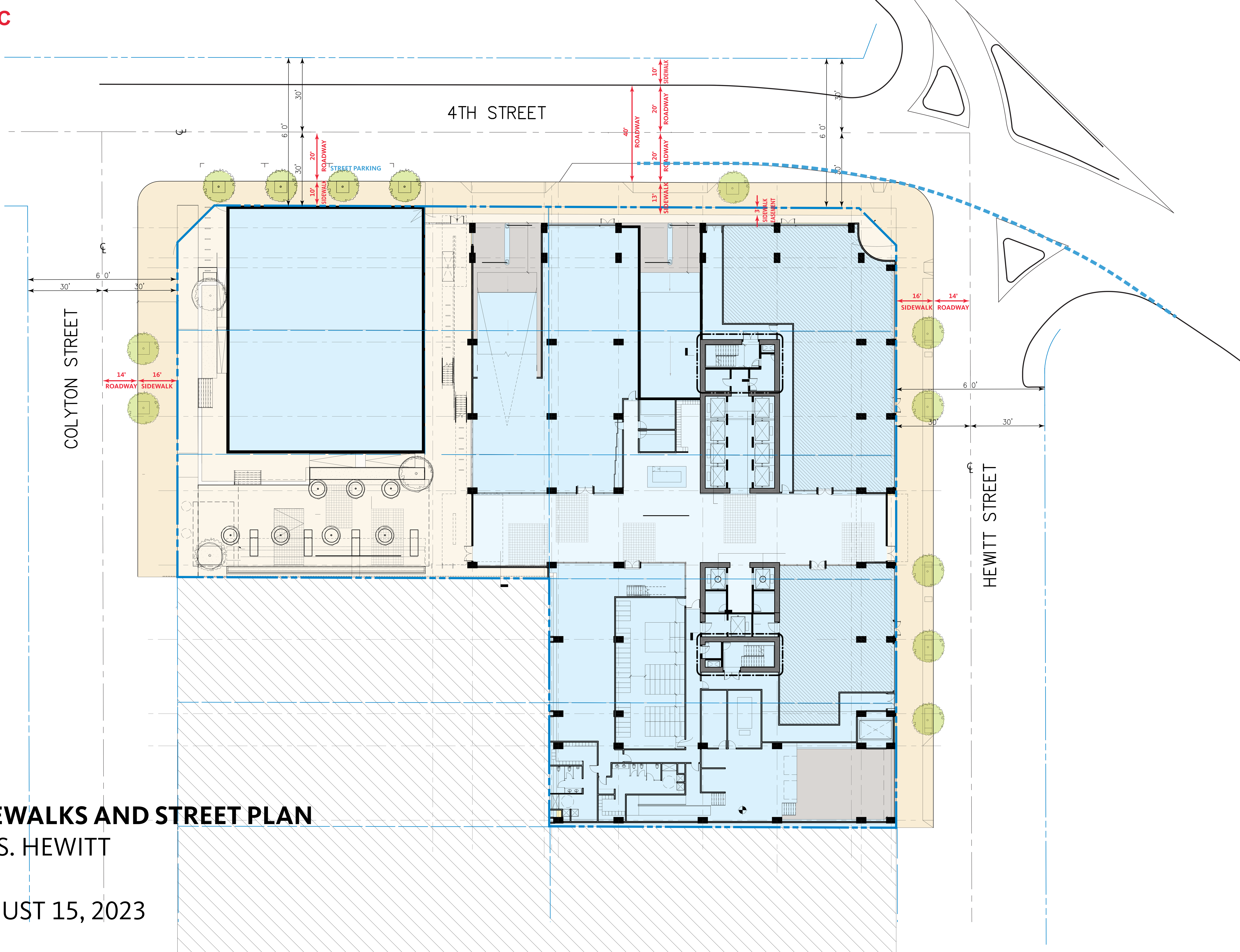
LIG-900, 910, 926 E. 4TH ST,
405, 144 S. HEWITT ST, LLC

IN THE CITY OF LOS ANGELES COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DATE: JANUARY 6, 2017
SCALE: AS SHOWN
PROJECT NUMBER: 1LIG060100, TASK 102
SHEET 4 OF 4

EXHIBIT C



SIDEWALKS AND STREET PLAN

401 S. HEWITT

AUGUST 15, 2023

IV. Mitigation Monitoring Program

1. Introduction

This Mitigation Monitoring Program (MMP) has been prepared pursuant to Section 21081.6 of the Public Resources Code (PRC), which requires a lead agency to adopt a "reporting or monitoring program for changes to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." In addition, Section 15097(a) of the California Environmental Quality Act (CEQA) Guidelines requires that a public agency adopt a program for monitoring or reporting mitigation measures and project revisions, which it has required to mitigate or avoid significant environmental effects. This MMP has been prepared in compliance with the requirements of CEQA, Section 21081.6 of the PRC, and Section 15097 of the CEQA Guidelines.

The City of Los Angeles (City) is the Lead Agency for the 4th and Hewitt Project (Project) and therefore is responsible for administering and implementing the MMP. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity that accepts the delegation; however, until mitigation measures have been completed, the Lead Agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

An Environmental Impact Report (EIR) has been prepared to address the potential environmental impacts of the Project. The evaluation of the Project's impacts in the EIR takes into consideration the project design features (PDF) and applies mitigation measures (MM) needed to avoid or reduce potentially significant environmental impacts. This MMP is designed to monitor implementation of the PDFs and MMs identified for the Project.

2. Purpose

It is the intent of this MMP to provide a record of the project design features and mitigation measures that are required of the Project; identify the responsible enforcement and monitoring agencies; establish the phase, frequency, and duration of monitoring; and convey the manner by which the Project is required to achieve compliance and the materials that document compliance for the record.

3. Organization

As shown in this MMP, each identified project design feature and mitigation measure for the Project is listed and categorized by environmental impact area, with accompanying identification of the following:

- **Enforcement Agency:** the agency with the power to enforce the project design feature or mitigation measure.
- **Monitoring Agency:** the agency to which reports involving feasibility, compliance, implementation, and development are made.
- **Monitoring Phase:** the phase of the Project during which the project design feature or mitigation measure shall be monitored.
- **Monitoring Frequency:** the frequency at which the project design feature or mitigation measure shall be monitored.
- **Action(s) Indicating Compliance:** the action(s) by which the Enforcement or Monitoring Agency indicates that compliance with the identified project design feature or mitigation measure has been implemented.

4. Administrative Procedures and Enforcement

This MMP shall be enforced throughout all phases of the Project. The Applicant shall be responsible for implementing each project design feature and mitigation measure and shall be obligated to provide certification, as identified below, to the appropriate monitoring and enforcement agencies that each project design feature and mitigation measure has been implemented. The Applicant shall maintain records demonstrating compliance with each project design feature and mitigation measure. Such records shall be made available to the City upon request.

During the construction phase and prior to the issuance of building permits, the Applicant shall retain an independent Construction Monitor (either via the City or through a third-party consultant), approved by the Department of City Planning, who shall be responsible for monitoring implementation of project design features and mitigation measures during construction activities consistent with the monitoring phase and frequency set forth in this MMP.

The Construction Monitor shall also prepare documentation of the Applicant's compliance with the project design features and mitigation measures during construction every 90 days in a form satisfactory to the Department of City Planning. The documentation must be signed by the Applicant and Construction Monitor and be included as part of the

Applicant's Compliance Report. The Construction Monitor shall be obligated to report to the Enforcement Agency of any non-compliance with the project design features and mitigation measures within two businesses days if the Applicant does not correct the non-compliance within a reasonable time of notification to the Applicant by the monitor or if the non-compliance is repeated. Such non-compliance shall be appropriately addressed by the Enforcement Agency.

5. Program Modification

After review and approval of the final MMP by the Lead Agency, minor changes and modifications to the MMP are permitted, but can only be made subject to City approval. The Lead Agency, in conjunction with any appropriate agencies or departments, will determine the adequacy of any proposed change or modification. This flexibility is necessary in light of the nature of the MMP and the need to protect the environment. No changes will be permitted unless the MMP continues to satisfy the requirements of CEQA, as determined by the Lead Agency.

The Project shall be in substantial conformance with the project design features and mitigation measures contained in this MMP. The enforcing departments or agencies may determine substantial conformance with project design features and mitigation measures in the MMP in their reasonable discretion. If the department or agency cannot find substantial conformance, a project design feature and mitigation measure may be modified or deleted as follows: the enforcing department or agency, or the decision maker for a subsequent discretionary project related approval finds that the modification or deletion complies with CEQA, including CEQA Guidelines, Sections 15162 and 15164, which could include the preparation of an addendum or subsequent environmental clearance, if necessary, to analyze the impacts from the modifications to or deletion of the project design features and mitigation measures. Any addendum or subsequent CEQA clearance shall explain why the project design feature or mitigation measure is no longer needed, not feasible, or the other basis for modifying or deleting the project design feature or mitigation measure, and that the modification will not result in a new significant impact consistent with the requirements of CEQA. Under this process, the modification or deletion of a project design feature or mitigation measure shall not, in and of itself, require a modification to any Project discretionary approval unless the Director of Planning also finds that the change to the project design feature or mitigation measure results in a substantial change to the Project or the non-environmental conditions of approval.

6. Mitigation Monitoring Program

a) Air Quality

(1) Project Design Features

AQ-PDF-1: The Applicant will make a reasonable effort to attain diesel-powered equipment that will meet United States Environmental Protection Agency Tier 4 Final emission reduction technology for nonroad diesel engines to utilize during the construction period.

- **Enforcement Agency:** Los Angeles Department of Building and Safety; South Coast Air Quality Management District
- **Monitoring Agency:** Los Angeles Department of City Planning; or Los Angeles Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** Once during Project plan check (requiring proof of compliance); Periodically during field inspection
- **Action Indicating Compliance:** Project plan approval; Issuance of applicable building permit (requiring proof of compliance); Field inspection sign-off

b) Cultural Resources

(1) Mitigation Measures

CUL-MM-1 **Archaeological Resource Monitoring.** Prior to the issuance of a demolition permit, the Applicant or its Successor shall retain a Qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (Qualified Archaeologist) to oversee an archaeological monitor who shall be present during construction activities on the Project Site such as demolition, clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The activities to be monitored shall also include off-site improvements in the vicinity of the Project Site, such as utility, sidewalk, or road improvements. The monitor shall have the authority to direct the pace of construction equipment in areas of high sensitivity. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Archaeologist. Prior to commencement of excavation activities, an archaeological Sensitivity Training shall be carried out by the Qualified Archaeologist, focusing on how to identify archaeological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** To be determined by consultation with the Qualified Archaeologist if resources are discovered
- **Action Indicating Compliance:** Field inspection sign-off

CUL-MM-2 **Archaeological Resource Discovery.** In the event that historic or prehistoric archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 50-foot buffer shall be established by the Qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the Qualified Archaeologist. If a resource is determined by the Qualified Archaeologist to constitute a “historical resource” pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15064.5 (a) or a “unique archaeological resource” pursuant to Public Resources Code (PRC) Section 21083.2 (g), the Qualified Archaeologist shall coordinate with the Applicant and the Department of City Planning to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the Project area, consultation with interested Native American parties shall be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The treatment plan established for the resources shall be in accordance with State CEQA Guidelines Section 15064.5(f) for historical resources and PRC Section 21083.2(b) for unique archaeological resources. As noted in California Code of

Regulations Section 15126.4(b)(A), preservation in place (i.e., avoidance) is the preferred manner of treatment. If, in coordination with the City's Office of Historic Resources and with final approval by the Department of City Planning, it is determined that preservation in place is not feasible, appropriate treatment of the resources shall be developed by the Qualified Archaeologist and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological materials, they shall be donated to a local school or historical society in the area for educational purposes.

- **Zanja Conduit System Discovery.** In the event that Zanja Conduit System-related infrastructure is unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. An appropriate exclusion area that accounts for the linear nature of the resource shall be established by a Qualified Archaeologist, meeting the Secretary of the Interior Standards in Archaeology. Construction activities shall not be allowed to continue within the exclusion area until directed by the Qualified Archaeologist in consultation with the Department of City Planning, but work shall be allowed to continue outside of the exclusion area. The Qualified Archaeologist shall coordinate with the Applicant or its Successor, the Department of City Planning, and the City's Office of Historic Resources (OHR) to develop a formal treatment plan for the resource that would serve to mitigate impacts to the resource(s). The treatment measures listed in California Code of Regulations Section 15126.4(b) shall be considered when determining appropriate treatment for the Zanja resource. Treatment shall be designed to address the Zanja resource's eligibility under Criterion 1 (significant events) and 4 (scientific data) as well as eligibility as a unique archaeological resource of the likely form of the Zanja, to the best of current knowledge (e.g., is it assumed to be made of wood/concrete/earthen etc., based on known archival research) and may include implementation of data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. At a minimum, a commemoration program that includes the development of an interpretive exhibit/display/signage or plaque at the Project Site shall be developed. In addition, other public educational and/or interpretive treatment measures shall be developed as determined appropriate by the Qualified Archaeologist in consultation with the OHR. Any associated artifacts collected that are not made part of the interpretation/education collection shall be curated or donated as specified above (see "Archaeological Resource Discovery").

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** To be determined by consultation with the Qualified Archaeologist if resources are discovered
- **Action Indicating Compliance:** Field inspection sign-off

CUL-MM-3 **Archaeological Resource Documentation.** Following the conclusion of archaeological monitoring but prior to the release of the grading bond, the Qualified Archaeologist shall prepare a final report and complete the appropriate California Department of Parks and Recreation Site Forms. The report shall include a description of archaeological resources unearthed (Zanja-related or other archaeological resources), if any; treatment of the resources; results of the artifact processing, analysis, research; and an evaluation of the resources with respect to the California Register and the California Environmental Quality Act. The report and the Site Forms shall be submitted by the Project Applicant or its Successor to the Department of City Planning, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the development and required mitigation measures.

- **Enforcement Agency:** Los Angeles Department of City Planning
- **Monitoring Agency:** Los Angeles Department of City Planning
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once at Project plan check
- **Action Indicating Compliance:** Project plan approval; Issuance of building permit

c) Hazardous and Hazardous Materials

(1) Mitigation Measures

HAZ-MM-1 Following demolition of on-site structures and prior to redevelopment of the Project Site, the Applicant shall retain a qualified environmental professional to perform a Supplemental Phase II Subsurface Site Investigation. The Supplemental Phase II Subsurface Site Investigation shall focus on soils in those areas that were identified as inaccessible during the Phase II Subsurface Site Investigation: the areas of the on-site wastewater clarifier, auto repair floor pit, and wastewater separator structures. In addition, due to the low level of petroleum hydrocarbons reported at B2 at 10 feet below ground surface (bgs), the Supplemental Phase II Subsurface Site Investigation shall also include the area of the former truck wash rack. In the event that soils contaminated by petroleum products or other hazardous chemicals are encountered during the investigation, a qualified environmental professional shall be retained to oversee the proper characterization and disposal of waste and remediation of impacted soil and/or materials, as necessary.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction
- **Monitoring Frequency:** Once at Project plan check (requiring proof of compliance); Once during field investigation
- **Action Indicating Compliance:** Project plan approval; Issuance of grading permit; Field inspection sign-off

HAZ-MM-2 Prior to the commencement of soil-disturbing activities, the Applicant shall retain a qualified environmental professional to prepare a Soil Management Plan for review and approval by the City of Los Angeles Department of Building and Safety. Soil-disturbing activities include excavation, grading, trenching, utility installation or repair, and other human activities that may potentially bring contaminated soil to the surface. The approved Soil Management Plan shall be implemented during soil-disturbing activities on the Project Site and shall establish policies and requirements for the testing, management, transport, and disposal of soils. The Soil Management Plan shall describe specific soil-handling controls required to assure compliance with local, State and federal overseeing agencies, as well as to prevent unacceptable exposure to contaminated soil and prevent the improper disposal of contaminated soils, if encountered.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety; Department of Toxic Substances Control; or Los Angeles Regional Water Quality Control Board
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once prior to issuance of grading permit; Ongoing with periodic field inspections during construction for Soil Management Plan implementation
- **Action Indicating Compliance:** Approval of Soil Management Plan; Issuance of grading permit; Compliance report by a qualified environmental consultant

d) Greenhouse Gas Emissions

(1) Project Design Features

GHG-PDF-1: The Office Building will be designed to achieve the equivalent of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification level for new buildings. Prior to the issuance of building permits, documentation that indicates the Office Building is designed to achieve the number of points that would be required for LEED Silver Certification will be provided to the City. The specific sustainability features that will be integrated into the Project design to enable the Project to meet this standard may include, but will not be limited to, the following:

- Use of Energy Star rated products and appliances.
- Use of high-efficiency wall and/or roof insulation.
- Use of light-emitting diode (LED) lighting or other energy-efficient lighting technologies, such as occupancy sensors or daylight harvesting and dimming controls, where appropriate, to reduce electricity use.
- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety

- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing during field inspection
- **Action Indicating Compliance:** Issuance of building permit; Field inspection sign-off

e) Noise and Vibration

(1) Project Design Features

NOI-PDF-1: All capable diesel-powered construction vehicles will be equipped with exhaust mufflers, aftermarket dampening systems, or other suitable noise reduction devices.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction
- **Action Indicating Compliance:** Issuance of demolition permit; Field inspection sign-off

NOI-PDF-2: Power construction equipment (including combustion engines), fixed or mobile, will be equipped with state-of-the-art noise shielding and muffling devices (consistent with manufacturers' standards). All equipment will be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction

- **Action Indicating Compliance:** Issuance of demolition permit; Field inspection sign-off

NOI-PDF-3: Grading and construction contractors will use rubber-tired equipment rather than metal-tracked equipment.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction
- **Action Indicating Compliance:** Issuance of grading permit; Field inspection sign-off

NOI-PDF-4: An on-site construction manager will be responsible for responding to local complaints about construction noise. Notices will be sent to residential units within 500 feet of the construction site and signs will be posted at the construction site that list the telephone number for the on-site construction manager.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Once before the onset of demolition activities to confirm signs/notices are posted
- **Action Indicating Compliance:** Issuance of demolition permit; Field inspection sign-off

NOI-PDF-5: Construction supervisors will be informed of Project-specific noise requirements, noise issues for sensitive land uses adjacent to the Project construction Site, and/or equipment operations to ensure compliance with the required regulations and best practices.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety

- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-construction; Construction
- **Monitoring Frequency:** Once at the onset of demolition activities and as needed when new personnel begin work
- **Action Indicating Compliance:** Field training sign-off

NOI-PDF-6: Rooftop mechanical equipment, including heating, ventilation, and air conditioning (HVAC) systems, will be acoustically screened from off-site locations and will include vibration-attenuation mounts.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** Once at Project plan check; Once at field inspection
- **Action Indicating Compliance:** Issuance of occupancy permit; Field inspection sign-off

(2) Mitigation Measures

NOI-MM-1 Subject to off-site property owner agreement, a temporary construction barrier on the rooftop of 428 South Hewitt Street, near the edge of the rooftop facing the Project Site, shall be erected during the Project demolition and grading phases and when equipment is used on the ground floor during building construction and paving. The barrier shall be least four feet in height and constructed of a material with a Sound Transmission Class (STC) rating of at least STC-30 (such as acoustic panels or sound barrier products) or a transmission loss of at least 20 decibels (dB) at 500 hertz (such as 1/2-inch plywood). In addition to the rooftop barrier, a temporary construction barrier of approximately 300 feet in length and 24 feet in height, located at the eastern edge and southeastern corner of the Project Site, and constructed of a material with a rating of STC-35 or greater (such as acoustic panels or sound barrier products) or providing a transmission loss of at least 25 dB at 500 hertz (such as 3/4-inch plywood), shall be erected during the Project demolition and grading phases and when equipment is used on the ground floor during building construction and paving.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Once at field inspection
- **Action Indicating Compliance:** Issuance of demolition, grading, and building permits; Field inspection sign-off

NOI-MM-2 Prior to demolition, the Applicant shall retain the services of a structural engineer or other qualified professional to conduct pre-construction surveys to document the current physical conditions of the following identified vibration-sensitive receptors: 418 Colyton Street, 424 Colyton Street, and 427 South Hewitt Street.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction
- **Monitoring Frequency:** Once at Project plan check
- **Action Indicating Compliance:** Issuance of demolition permit

NOI-MM-3 Prior to the issuance of grading permits, the Applicant shall retain the services of a structural engineer or other qualified professional to prepare a demolition and shoring plan to ensure the proper protection and treatment of the properties at 418 Colyton Street, 424 Colyton Street, and 427 South Hewitt Street during construction. The plan shall include appropriate measures to protect these properties from damage due to demolition of existing structures, excavation or other ground-disturbing activities, vibration, soil settlement, and general construction activities. The plan shall be submitted to the City of Los Angeles' Office of Historic Resources for review and approval.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Office of Historic Resources; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety

- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction
- **Action Indicating Compliance:** Demolition and Shoring Plan approval; Issuance of demolition, grading, and building permits

NOI-MM-4 Prior to the issuance of grading permits, the Applicant shall retain the services of an acoustical engineer or other qualified professional to develop and implement a structural monitoring program during construction. The performance standards of the structural monitoring program shall include the following:

- Documentation, consisting of video and/or photographic documentation of accessible and visible areas on the exterior of the receptor buildings (refer to NOI-MM-2).
- A registered civil engineer, certified engineering geologist, or vibration control engineer shall review the appropriate vibration criteria for the identified vibration receptors, taking into consideration their age, construction, condition, and other factors related to vibration sensitivity in order to develop additional recommendations for the structural monitoring program.
- Vibration sensors shall be installed on and/or around the identified vibration receptors to monitor for horizontal and vertical movement. These sensors shall remain in place for the duration of excavation, shoring, and grading phases.
- The vibration sensors shall be equipped with real-time warning system capabilities that can immediately alert construction supervisors when monitored vibration levels approach or exceed threshold limits. The registered civil engineer, certified engineering geologist, or vibration control engineer shall determine the appropriate limits.
- Should an exceedance of vibration thresholds occur, work in the vicinity of the affected area shall be halted and the respective vibration receptor shall be inspected for any damage. Results of the inspection shall be logged. In the event that damage occurs, the damage shall be repaired in consultation with a qualified preservation consultant. In the event of an exceedance, feasible

steps to reduce vibratory levels shall be undertaken, such as halting/staggering concurrent activities and utilizing lower-vibratory techniques.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Office of Historic Resources; Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction
- **Action Indicating Compliance:** Approval of Structural Monitoring Program; Issuance of demolition, grading, and building permits

f) Public Services – Police Protection Services

(1) Project Design Features

POL-PDF-1: Prior to issuance of a demolition permit, the Project will:

- Provide security fencing around the perimeter of the Project Site during the construction phase; and
- Provide on-site security personnel whose duties will include construction site entrance and exit monitoring.

Prior to issuance of a certificate of occupancy, the Project will:

- Provide on-site security personnel whose duties will include Office Building (including parking levels) video surveillance monitoring and fire/life/safety system monitoring; and
- Provide adequate security lighting of parking areas, elevators, lobbies, and pathways for pedestrian orientation and to reduce areas of concealment.

The Applicant will consult with the Los Angeles Police Department (LAPD) to ensure that available and feasible crime prevention features have been incorporated during the construction period and into the Project design and receive LAPD's approval.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Police Department; or Los Angeles Department of Building and Safety

- **Monitoring Agency:** Los Angeles Department of City Planning; Los Angeles Police Department; or Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction (security fencing around the Project site during construction); Construction (security personnel during construction); Post-Construction (security personnel during operations, video surveillance, and lighting)
- **Monitoring Frequency:** Once at Project plan check; Ongoing with periodic field inspection during construction; Once following occupancy during field inspection
- **Action Indicating Compliance:** Project plan approval; LAPD approval of compliance documentation; Issuance of Certificate of Occupancy; Field inspection sign-off

POL-PDF-2: Emergency Procedures Plan. Prior to the issuance of a certificate of occupancy, the Applicant or its successor will develop an Emergency Procedures Plan that addresses emergency concerns and practices and provides a diagram that illustrates each portion of the property, including access routes. The plan will be submitted to the Los Angeles Police Department (LAPD) Central Area Commanding Officer for review and approval.

- **Enforcement Agency:** Los Angeles Department of City Planning; Los Angeles Police Department; or Los Angeles Department of Building and Safety
- **Monitoring Agency:** Los Angeles Police Department
- **Monitoring Phase:** Post-Construction
- **Monitoring Frequency:** Once at Project plan check (requiring Emergency Procedures Plan)
- **Action Indicating Compliance:** Project plan approval; LAPD approval of Emergency Procedures Plan; Issuance of Certificate of Occupancy

g) Transportation

(1) Project Design Features

TRANS-PDF-1: Construction Traffic Management Plan. The Applicant will prepare and submit a detailed Construction Traffic Management Plan to the City for review and approval. The Construction Traffic Management Plan will include temporary street closure information, a detour plan, haul routes, and an equipment staging plan. The Construction Traffic Management Plan will formalize how construction will be carried out and identify specific actions that will be required to reduce effects on the surrounding community. The Construction Traffic Management Plan will be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and will include, but not be limited to, the following elements, as appropriate:

- Advanced notification of adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction.
- Prohibition of construction worker parking on adjacent residential streets.
- Prohibition of construction-related vehicle parking on surrounding public streets.
- Temporary pedestrian and vehicular traffic controls during all construction activities adjacent to East 4th Street, Colyton Street, and South Hewitt Street to ensure traffic safety on public rights-of-way. These controls shall include, but are not limited to, flag people trained in pedestrian and student safety.
- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate, including along all identified Los Angeles Unified School District (LAUSD) pedestrian routes to nearby schools.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible, and so as to not impede school drop-off and pick-up activities and students using LAUSD's identified pedestrian routes to nearby schools.
- Coordination with public transit agencies to provide advanced notifications of stop relocations and durations.
- Advanced notification of temporary parking removals and duration of removals.
- Provision of detour plans to address temporary road closures during construction.
- **Enforcement Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning

- **Monitoring Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once, prior to issuance of the demolition, grading or building permit; Periodic field inspections during construction
- **Action Indicating Compliance:** Approval of Construction Traffic Management Plan by Los Angeles Department of Transportation prior to issuance of demolition, grading, or building permit (Pre-Construction); Compliance certification report submitted by Project contractor (Construction)

TRANS-PDF-2: Transportation Management Organization. The Applicant will provide its fair share of seed funding for the Arts District portion of a Downtown/Arts District Transportation Management Organization (TMO), following approval of the Project, by providing funding for TMO operations and marketing efforts. The Applicant will commit its fair share required in the first year to cover the cost of launching the Arts District portion of a Downtown/Arts District TMO and will continue to commit to nine additional years (10 years in total), as a charter member with annual dues.

- **Enforcement Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning
- **Monitoring Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning
- **Monitoring Phase:** Pre-occupancy
- **Monitoring Frequency:** Once annually for ten years
- **Action Indicating Compliance:** Issuance of Certificate of Occupancy

TRANS-PDF-3: Transportation Demand Management (TDM) Program. The Project will develop and implement a Transportation Demand Management (TDM) program to promote non-auto travel and reduce the use of single-occupant vehicle trips. The TDM program will be subject to review and approval by the City of Los Angeles Department of City Planning and Los Angeles Department of Transportation (LADOT). The TDM Program must be approved by LADOT prior to the issuance of the first Certificate of Occupancy. The strategies in the TDM program may include, but would not be limited to, the following:

- Educational Programs/On-Site TDM Coordinator – A TDM coordinator on the building management staff would reach out to employers and employees directly to make them aware of the various programs offered and promote the benefits of the TDM.

- Transportation Information Center/Kiosks – A Transportation Information Center is a centrally-located commuter information center where Project employees and visitors can obtain information regarding commute programs, and individuals can obtain real-time information for planning travel without using an automobile. A Transportation Information Center will support orientation for new employees as well as providing information about transit schedules, commute planning, rideshare, telecommuting, and bicycle and pedestrian plans.

- Bicycle and Pedestrian Amenities – The Project would incorporate features for bicyclists and pedestrians, such as exclusive access points, secured bicycle parking facilities and showers. Additionally, the Project Site would be designed to be a friendly and convenient environment for pedestrians.

- City Bicycle Plan Trust Fund – The Applicant would contribute to the City Bicycle Plan Trust Fund for implementation of bicycle improvements in the Project area under the 2010 Bicycle Plan and Mobility Plan.

- Ridesharing Services Programs – The TDM program would provide services to match employees together to establish carpools and vanpools.

- Incentives for Using Alternative Travel Modes – The TDM program may include, but would not be limited to, various incentives for use of its programs. For example, carpool and vanpool users could be offered preferential load/unload areas or convenient designated parking spaces. Unbundled parking is a program wherein parking spaces are rented separately from the building space, which allows for a separate charge for parking and the flexibility to vary the number of spaces rented.

- Mobility Hub Support – The Project would support existing and/or future efforts by LADOT to provide first-mile and last-mile service for transit users through the mobility hub program. Mobility hubs, typically located at or near public transit centers, would provide amenities such as, but not limited to, bicycle parking, and transit information. In cooperation with the proposed Downtown/Arts District Transportation Management Organization (TMO), the Project could provide space for similar amenities at the Project Site to complement future mobility hubs in the Study Area.

- **Enforcement Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning

- **Monitoring Agency:** Los Angeles Department of Transportation; Los Angeles Department of City Planning
- **Monitoring Phase:** Post-Construction
- **Monitoring Frequency:** Once at Project plan check
- **Action Indicating Compliance:** TDM approval; Issuance of occupancy permit

h) Utilities and Service Systems – Water Supply and Infrastructure

(1) Project Design Features

WS-PDF-1: Water Conservation Features. The Project will provide the following water efficiency features:

- High Efficiency Toilets with a flush volume of 1.1 gallons per flush, or less.
- Showerheads with a flow rate of 1.5 gallons per minute, or less.
- Domestic Water Heating System located in close proximity to point(s) of use.
- Drip/Subsurface Irrigation (Micro-Irrigation)/Bubblers for trees.
- Proper Hydro-zoning/Zoned Irrigation.
- Drought Tolerant Plants.
- **Enforcement Agency:** Los Angeles Department of Water and Power; Los Angeles Department of Building and Safety; Los Angeles Department of City Planning
- **Monitoring Agency:** Los Angeles Department of Building and Safety
- **Monitoring Phase:** Pre-Construction; Construction
- **Monitoring Frequency:** Once at Project plan check; Once prior to issuance of Certificate of Occupancy
- **Action Indicating Compliance:** Project plan approval; Issuance of building permit; Issuance of Certificate of Occupancy

envicom
CORPORATION

MEMORANDUM

Date: August 30, 2023

To: Kathleen King, City Planner
City of Los Angeles, Department of City Planning

From: Johanna Falzarano, Senior Project Manager
Envicom Corporation

Bill Piazza, Environmental Engineer
Air Quality Dynamics

Subject: 4th and Hewitt Project Environmental Impact Report – Supplemental Responses to the August 15, 2023 Comment Letter

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On August 16, 2023, an Advisory Agency public hearing was held for the 4th and Hewitt Project (Project) Final Environmental Impact Report (EIR). Marjan Abubo of Lozeau Drury LLP, representing Supporters Alliance for Environmental Responsibility (SAFER) (collectively, Commenter), submitted a comment letter dated August 15, 2023, which raised comments regarding air quality and greenhouse gas (GHG) emission, indoor air quality, health risk, and biological resource impacts (included as Attachment A). Responses to these comments are provided below.

As demonstrated by these responses, the environmental topics raised by the Commenter have already been addressed in the Initial Study (IS), dated September 2017, in the Draft EIR, dated May 2022, or in the Final EIR, dated July 2023. No new significant environmental impacts, no substantial increases in the severity of any of the significant environmental impacts, no new mitigation measures, and no new impacts from mitigation measures not already identified in the Draft EIR for the Project would occur or are warranted. Therefore, no new significant information (as defined by the California Environmental Quality Act [CEQA] Guidelines Section 15088.5) that would require recirculation of the Draft EIR has been identified.

Topic 1. The Commenter asserts that substantial evidence shows that the Project will have significant air quality, health risk, and GHG impacts.

Air Quality

The Commenter states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant air quality impact on the basis that the emissions were underestimated when the default values in the California Emissions Estimator Model (CalEEMod) were changed to Project-specific values. As acknowledged by the Commenter, and as stated in the California Air Pollution Control Officers Association's CalEEMod User Guide (Version 2022.1, April 2022), several opportunities exist for the model user to change the defaults in the model and to reference more appropriate data sources; however, the model user is required to provide justification for the changes in the "justification box" before the model even allows the user to continue to the next step. In both the CalEEMod output that is included in the Project Draft EIR in Appendix B, Air Quality Impact Analysis, and the updated CalEEMod output that is included in the Project Final EIR in Appendix FEIR-B, Revised California Emissions Estimator Model, such justification notes are provided.

Furthermore, Appendix B, Air Quality Impact Analysis, of the Draft EIR explains that the construction phase lengths were developed in coordination with the applicant team (including their expert contractor, Milender White), and Chapter II, Project Description, of the Draft EIR also references Milender White as the source for Project-specific demolition, construction, and earthwork data. The Final EIR, Chapter II, Responses to Comments, also details that the CalEEMod was revised to capture potential air emissions associated with operation of an emergency generator. As part of the Final EIR's CalEEMod revision, the construction schedule was also updated from 2021 to 2023 as utilized in the Draft EIR, to 2022 to 2025. The requirement for Tier 4 Final construction equipment was also removed from the revised CalEEMod that was prepared for the Final EIR, in response to Comment No. 4-6 on the Draft EIR (refer to Response to Comment No. 4-6 in Chapter II of the Final EIR).

As such, the changes to the CalEEMod default values related to construction equipment and phasing, earthwork, construction dates, and stationary equipment use are based on information provided by experts in their fields, and the changes are documented by the model users in the CalEEMod "justification boxes," in the Draft EIR, and in the Final EIR. As such, the Draft EIR and Final EIR conclusions regarding air quality impacts are supported by substantial evidence and remain less than significant.

Health Risk

The Commenter also states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant health risk impact during both construction and operations. However, the construction health risk assessment (HRA) is provided as Appendix FEIR-C of the Final EIR. As described in further detail in Response to Comment No. 4-7 in Chapter II, Responses to Comments, of the Final EIR, with regard to health risks associated with Project construction activities, the South Coast Air Quality Management District (SCAQMD) is the governing Air Quality Management District (AQMD) providing CEQA analysis guidance over the Project site and the surrounding area, rather than the Office of Environmental Health Hazard Assessment (OEHHA), as referenced by the Commenter.

It is the SCAQMD's rules and regulations that apply to the Project. The SCAQMD CEQA Air Quality Handbook does not recommend the analysis of toxic air contaminants (TACs) from short-term construction activities associated with land use development projects due to the limited duration of exposure. Although a construction HRA is not required by the SCAQMD (or the L.A. City CEQA Thresholds Guide,) and no guidance for HRAs for construction has been adopted by the SCAQMD or the City of Los Angeles (City), a construction HRA was prepared in accordance with United States Environmental Protection Agency, California Environmental Protection Agency, and SCAQMD assessment and dispersion modeling methodologies, for informational purposes only. The construction HRA is provided as Appendix FEIR-C of the Final EIR and shows that construction-period health risks from the Project development activities would be a maximum of 0.31 in one hundred thousand at 428 South Hewitt Street (the nearest sensitive land use), which would be below the significance threshold of one in one hundred thousand.

The Commenter further contends that diesel particulate matter (DPM) emissions associated with Project construction (and operation) may have the potential to expose sensitive receptors to substantial pollutant concentrations. This is based upon the Commenter's subsequent manipulation of the cancer risk estimates identified in the construction HRA, which the Commenter shows as exceeding the maximum incremental cancer risk of ten in one million (10E-06) established by the SCAQMD for projects prepared under the auspices of CEQA. As a result, the Commenter contends that a potentially significant impact exists whereby the construction HRA prepared for the Project fails to adequately evaluate the health impacts associated with both Project construction and operation. In response, the following discussion illustrates the Commenters' assertion of potential significance is based upon the misrepresentation of facts and misunderstanding of regulatory guidance.

The Commenter contends that the analysis of health risk must incorporate early-life exposure adjustments to characterize carcinogenic exposures to DPM, for emission sources that are subject to the OEHHA Air Toxics Hot Spots Program guidelines (Assembly Bill [AB] 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.). However, AB 2588 guidance has no statutory relation to projects prepared under CEQA. As reported by the California Air Resources Board (CARB), the Air Toxics "Hot Spots" Information and Assessment Act (AB2588, 1987, Connelly) was enacted in September 1987. Under this, stationary sources are required to report the types and quantities of certain substances their facilities routinely release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including, but not limited to, continuous and intermittent releases and process upsets or leaks. As such, AB2588 applies to specific commercial and industrial operations that have the potential to generate quantities of criteria and toxic air emissions that could present health risks. There are two broad classes of facilities subject to the AB2588 Program: Core facilities and facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (such as auto body shops and gas stations). Emissions generated from the construction and subsequent occupancy of an office building are not classified as stationary operations nor subject to evaluation under AB2588.

The Commenter also cites the SCAQMD regarding the preparation of HRAs in a manner consistent with the Risk Assessment Procedures for Rules 1401, 1401.1 and 212, whereby applicability is associated with stationary source operations. However, emissions generated by off-road construction equipment and non-permitted operational sources are not subject to the above referenced rules and agency regulations.

Additionally, in comments presented to the SCAQMD Governing Board (Meeting Date: June 5, 2015, Agenda No. 28) relating to TAC exposures, use of the OEHHA guidelines, and their applicability for projects subject to CEQA, as they relate to the incorporation of early-life exposure adjustments, it was reported that the Proposed Amended Rules are separate from the CEQA significance thresholds and that SCAQMD staff is evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will consider a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board. Contrary to the Commenter's assertion that available guidance exists, the SCAQMD, as a responsible and commenting agency, has not conducted public workshops nor developed policy relating to the applicability of applying the revised OEHHA guidance for projects prepared by other public/lead agencies subject to CEQA.

The Commenter also states that the Final EIR's construction HRA uses an underestimated Fraction of Time At Home value for the third trimester and infant receptors. The construction HRA addresses exposure to residential occupancies where fractional adjustments associated with time spent at home during a given day are appropriate. The fractional adjustments utilized in the construction HRA were developed by the OEHHA and CARB based upon activity pattern databases to estimate the percentage of the day that individuals are at home. This information is recommended to adjust exposure durations and carcinogenic risk estimates from specific facility emissions, based on the assumption that exposure to facility emissions do not occur away from home. Their review identified the number of minutes spent at home, statewide in California, and the percentage of total time spent at home. As a result, ages 0 to 2 spend 85 percent of their time at home. The time away from the home includes vacations. As such, the construction HRA considered this information a viable representation of fractional time adjustments and were incorporated, as reported, whereby a revision to the construction HRA is not warranted. Notwithstanding, should the fractional adjustments be revised to 1, the resultant carcinogenic risk value would increase by 0.6 in one million from 3.1E-06 (3.1 in one million) to 3.7E-06 (3.7 in one million). This incremental increase is well below the significance threshold of 10 in one million and, therefore, of no consequence.

Based upon the information presented above, the construction HRA submitted for the Project as part of the Final EIR provides a viable representation of construction-related emissions and presents substantial evidence showing that the Project will not have significant health impacts.

With regard to health risks during operation of the Project, the Commenter additionally suggests incorporating particulate (or PM10) exhaust emissions, as reported in the Project's air quality analysis, as a surrogate for DPM to address operational emissions. For this source category, CalEEMod predictive model estimates are associated with area, energy, and mobile sources. On-site area source emissions include hearths and landscape maintenance equipment. Energy-related emissions are associated with natural gas and electricity consumption. On-road mobile sources include running and start emissions. In consideration of these source categories, DPM emissions are only associated with a portion of the mobile source profile whereby the predominant source of emissions relates to vehicle miles traveled to and from the Project site. Although a portion of start emissions are generated on-site, they are associated with gasoline fueled vehicles and not diesel vehicles. The proposed land uses would not generally involve the use of heavy-duty diesel trucks with the exception of occasional moving trucks, trash trucks, or delivery trucks. As detailed in Response to Comment No. 4A-4, in Chapter II, Responses to Comments, of the Final EIR, the SCAQMD published and adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (such as, freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities).[1] The SCAQMD recommends that HRAs be conducted for substantial sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units). The Project is estimated to generate only 15.43 truck trips per day (refer to Final EIR Response to Comment No. 4A-4 for calculation details).

For stationary emissions during Project operations, the use of a proposed diesel-fueled emergency standby generator was identified as the only on-site DPM emission source. Such equipment that is located within the South Coast Air Basin is subject to the SCAQMD's permitting and operating procedures, which specify limits on maintenance and testing use as well as emission rates based on the generator's engine size. The SCAQMD maintains a list of certified internal combustion engine-emergency generators. The certification of equipment assures compliance with the SCAQMD regulations by identifying equipment that already meets their rule requirements. As explained in Response to Comment No. 4A-4 in Chapter II, Responses to Comments, of the Final EIR, the MTU/Rolls-Royce[2] unit proposed to be used in the Project's Office Building is on this list. Based on these factors and SCAQMD guidance, an operation HRA of proposed land uses and their effect on sensitive receptors in the Project area is not warranted.

Nevertheless, for informational purposes only, an operation HRA was prepared for the Project to evaluate the carcinogenic (cancer) and noncarcinogenic (noncancer) health risks associated with operation of the emergency generator. The operation HRA, including the detailed methodology and results, is included in Attachment B. As stated therein, the cancer health risk for the maximum exposed residential receptor for each occupancy would be below the significance threshold of one in one hundred thousand. Furthermore, an evaluation of the potential noncancer effects of DPM exposure was also conducted. These effects include the exacerbation of chronic heart and lung disease, including asthma and decreased lung function in children. The hazard index for the respiratory endpoint totaled less than one for all sensitive receptor occupancies. Should the total equal or exceed one, a health hazard is presumed to exist. Therefore, the Project's noncancer health risk impact would also be less than significant.

The Project health risk impacts during both construction and operations are supported by substantial evidence and remain less than significant, as reported in the Draft EIR and Final EIR.

<u>GHG Emissions</u>

The Commenter states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant GHG impact, on the basis that the emissions were

[1] SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, May 6, 2005.
[2] MTU/Rolls-Royce Model 16V2000G86S, 1,839 brake horsepower.

underestimated when the default values in the CalEEMod were changed to Project-specific values. Please refer to the Topic 1, Air Quality, discussion above, which demonstrates that the changes to the CalEEMod defaults are justified. Therefore, the Project GHG emissions estimates are valid.

The Commenter also compares the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold and finds that the Project would result in a potentially significant GHG impact. In addition, the Commenter reiterates that the Project would result in an 18 percent reduction of GHG emissions compared to the no action taken (NAT) scenario but states that the finding is unreliable, because the Final EIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. First, contrary to the Commenter's assertion that the NAT scenario CalEEMod is not provided, the NAT scenario CalEEMod is provided in Appendix F of the Draft EIR (refer to Greenhouse Gas Emissions Estimates – Without MXD/TDM [mixed-use development/transportation demand management]), as explained in Table IV.E-8 of Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR. Additionally, as discussed in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, and in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR, there are no SCAQMD-adopted or City-adopted numeric thresholds to apply to the evaluation of GHG impacts. Therefore, there are no quantitative standards for determining that the Project's GHG emissions would result in significant environmental impacts. In the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted for the purpose of reducing the emissions of GHGs. The policy consistency analysis provided in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR demonstrates that the Project would not conflict with applicable plans, policies, and regulations that have been adopted to reduce GHG emissions and impacts would be less than significant.

As such, the Draft EIR and Final EIR conclusions regarding GHG emissions impacts are supported by substantial evidence and remain less than significant.

Topic 2. The Commenter asserts that the Project fails to present substantial evidence showing that the Project will have a less than significant biological resources impact.

The Commenter states the Project will likely impact bird species flying along the Los Angeles River, due to the Project Site's close proximity to the Los Angeles River and the future green space/parks system that will be associated with the newly constructed 6th street viaduct bridge, and because the Project is in proximity to bird flight paths passing through the Bear Divide. The Commenter further states that the Project's height and windows conflict with the airspace normally used by birds, because glass façades of buildings intercept and kill many birds.

The Draft EIR does not evaluate Project impacts to biological resources in detail because the IS analysis (prepared in September 2017, published with the Notice of Preparation, and appended to the Draft EIR in Appendix A2) determined that such impacts would be less than significant and therefore did not warrant EIR analysis. As described in the IS, the Project Site is located in a highly urbanized area, supports minimal vegetation (in the form of street trees and ornamental landscaping), does not have riparian habitat (i.e., no water sources for wildlife), and is located approximately 0.35 miles west of a fully channelized, concrete-lined portion of the Los Angeles River. The Project Site does not contain sensitive natural communities or habitat as indicated in the City or regional plans or in regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (USFWS). Furthermore, the Project Site is not located in, or adjacent to, a Significant Ecological Area within the City. Due to the developed nature of the Project Site and surrounding area, the Project Site and vicinity do not support a migratory wildlife corridor or native wildlife nursery site.

The Bear Divide that is cited by the Commenter is located more than 20 miles northwest of the Project Site. However, as further detailed in the IS, street trees are located in the 4th Street right-of-way adjacent to the Project Site. Despite the low quality habitat that is available on the Project Site, the Project is subject to the Federal Migratory Bird Treaty Act (MBTA) of 1918 and the California Fish and Game Code. Street trees may potentially provide suitable nesting habitat for migratory birds, which are protected by the MBTA and the California Fish and Game Code. The MBTA is enforced by the USFWS and protects the migratory nongame native bird species listed in the Code of Federal Regulations Chapter 50, Section 10.13 and their nests. In accordance with the MBTA, Project tree removal activities would take place outside of the nesting season (February 15–September 15), if and to the extent feasible. To the extent that vegetation removal activities must occur during the nesting season, a biological monitor would be present during the removal activities to ensure that no active nests would be impacted. If active nests are found, a 300-foot buffer (500 feet for raptors) would be established until the fledglings have left the nest. As the Project would be required to comply with existing Federal and State laws that protect the migratory bird species that may potentially utilize trees in the Project vicinity for nesting habitat, impacts would be less than significant.

With regard to the Commenter's assertion that the Project's height and windows conflict with the airspace normally used by birds because glass façades of buildings intercept and kill many birds, the collision hazard of the Project would be similar to the collision hazard that is already the existing baseline environmental setting in the Project area (Downtown Los Angeles), which is fully developed with low-, mid-, and high-rise structures. Furthermore, according to the USFWS, nearly one billion birds collide with glass in the U.S. each year, and most of those fatalities happen at homes and buildings shorter than four stories tall.[3] The Project's Office Building would be 18 stories tall. Therefore, the Project would not exacerbate the existing collision hazard for birds.

Based on the information provided above, the Commenter has not presented substantial evidence that demonstrates that the Project would result in a significant biological resources impact. As reported in the 2017 IS for the Project, biological resource impacts would be less than significant.

Topic 3. The Commenter asserts that substantial evidence shows that the Project will likely have significant adverse indoor air quality and health impacts.

[3] USFWS, Threats to Birds: Collisions-Buildings & Glass, Available at: https://www.fws.gov/story/threats-birds-collisions-buildings-glass, Accessed on August 17, 2023.

The Commenter states that formaldehyde, a known human carcinogen, is found in many composite wood products (CWP) typically used in building materials and furnishings and commonly found in offices, warehouses, residences, and hotels. These materials contain formaldehyde-based glues that off-gas formaldehyde over a very long period of time. The Commenter further states that future full-time employees working at the Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, and that this risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

First, there are no requirements, guidance, or thresholds for determining impact significance available from the SCAQMD or City to evaluate indoor air quality (including health risk) impacts. Although the Commenter references a 10 per one million cancer risk threshold, this is the threshold that is used by the SCAQMD to evaluate the increase in cancer risk above ambient outdoor conditions. Therefore, the 10 per one million threshold does not apply to indoor air quality analyses and is irrelevant to the Project for determining indoor air quality impacts. Furthermore, the Commenter asserts that potentially adverse impacts to future users of a development resulting from a project's environmental impacts must be addressed by the CEQA review process. However, as determined by the California court of appeal in *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, the alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public at large: 'the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons.' [Citations omitted]". (Id. at page 782). Therefore, indoor air quality is not considered to be an impact under CEQA and need not be analyzed in the Project's EIR.

Second, as "supporting" documentation, the Commenter provides the results of two studies that measured the levels of indoor air contaminants (including formaldehyde) in new homes that were constructed after 2009, showing that the levels exceeded the inappropriately-applied SCAQMD threshold of 10 per one million. Beyond the threshold issue, the results of these studies do not constitute reliable substantial evidence for two additional reasons. The subject construction types of the studies were residences. Residential buildings would contain a different combination of steel, concrete, and wood construction than a mid- or high-rise commercial office building, such as that proposed with the Project. Residential construction typically uses more wood in comparison to mid- or high-rise commercial construction, and by the Commenter's own admission, wood is the more formaldehyde-containing product. Therefore, it is misleading to directly apply the results from these studies to the Project. Also, both studies have as their author or co-author the consultant (Dr. Offermann) who was hired by the Commenter to review and comment on the Final EIR.

Third, it is not yet known what specific building and interior finishing materials would be used for the Project. Such determinations are made after the Project is approved as part of the more detailed building permit design phase. And, to the extent that furnishings may contain CWP, the furniture and other materials that future Office Building occupants may choose to bring into the Project development is outside the control of the Project applicant. To speculate on the building and interior finishing materials in the EIR analysis is discouraged by CEQA (see e.g., CEQA Guidelines Sections 15064(f)(5) and 15145). Regardless, it is important to note that there is nothing unique about the Project compared to any other commercial building that would be constructed in California, whether it be a discretionary development such as the Project or a by-right development, as far as building and interior finishing materials are concerned. That is, the Project's building and interior finishing materials would be required to comply with all applicable regulations, including the City of Los Angeles Municipal Code, the City of Los Angeles Green Building Code (LAGBC), and the California Green Building Standards Code, (also referred to as CALGreen – Section 4.504.5). In addition, the Project would be required to comply with the applicable regulations of the CARB that provide specifications for acceptable formaldehyde concentrations in CWP. More specifically, the Project would be subject to CARB's CWP regulations that took effect in 2009. The Project would be required to comply with the CARB Airborne Toxic Control Measure (ATCM) to reduce formaldehyde emissions from CWP. The purpose of this ATCM is to reduce formaldehyde emissions from CWP that are sold, offered for sale, supplied, used, or manufactured for sale in California, which are specifically set at low levels intended to protect public health. The CWP regulation focuses on three products: hardwood plywood, particleboard, and medium density fiberboard. However, the CWP regulation also applies to CWP used in finished goods such as cabinets, doors, furniture, flooring products, moldings, toys, mirror and photo frames, audio speakers, base boards, shelving, and countertops.[4] This ATCM assures that these building materials and furnishings that are manufactured, distributed, imported, and used in new construction in California meet the maximum allowable concentrations that assure healthful indoor air quality. The CWP established two phases of emissions standards: an initial Phase I and the more stringent Phase II that requires that all finished goods, such as flooring, that are intended for sale or use in California are made using compliant CWP. As of January 2014, only Phase II products are legal for sale in California, and the Project would be required to comply with the more stringent Phase II requirements.

Based on the information provided above, the Project would not utilize more and may utilize less formaldehyde-based products than other buildings of its type, and the Project's building and interior finishing materials do not represent a unique or unusual development type that needs to be addressed in CEQA or that would indicate a substantial project-related impact; therefore, no special analysis or mitigation is required. The Project will comply with the existing codes and regulations in California, which adequately address potential emissions and risks from building materials to ensure safe practices and healthy indoor air.

Topic 4. The Commenter asserts that the Project must implement further mitigation measures to reduce the Project's significant air quality, health risk, GHG, and biological impacts.

The Commenter suggests that several additional mitigation measures are required of the Project to avoid or reduce significant air quality, health risk, GHG, and biological resource impacts. However, as demonstrated by the previous responses above, the Commenter does not provide substantial or credible evidence to support the assertions that the Project would result in significant air quality,

[4] CARB, Frequently Asked Questions for Consumers – Reducing Formaldehyde Emissions from Composite Wood Products, Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/compwood/consumer_faq.pdf, Accessed on August 18, 2023.

health risk, GHG, and biological resource impacts. Pursuant to Section 15064(f)(5) of the CEQA Guidelines, substantial evidence includes fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact. Substantial evidence is not argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment (Section 21080[d] and [e] of the Public Resources Code). As the claims and assertions presented by the Commenter are erroneous and/or supported by speculative and unsubstantiated assumptions, the City is not required to amend or recirculate the EIR, and no further mitigation measures are required. As determined by the IS, Draft EIR, and Final EIR analyses, air quality, health risk, GHG, and biological resource impacts of the Project would be less than significant, and no mitigation measures are required.

Topic 5. The Commenter asserts that the Final EIR fails to sufficiently justify a statement of overriding considerations.

The Commenter states that the Project would result in significant and unavoidable noise impacts and that the City will need to adopt a statement of overriding considerations to find that it is approving the Project despite its environmental harm due to its overriding benefits. The Commenter claims that the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be; therefore, a fiscal analysis must be prepared.

However, no such detailed economic analysis is required by CEQA. The City is aware that, given that the Project would result in significant and unavoidable impacts (related to temporary noise and vibration during the construction period), in accordance with Section 21081 of the Public Resources Code and the CEQA Guidelines, Sections 15092 and 15093, the City, as Lead Agency, must adopt a formal statement of overriding considerations, as required by CEQA, to demonstrate that the benefits of the Project outweigh the significant unavoidable adverse environmental effects. To do so, the City is required to balance, as applicable, not only the economic benefits, but also the legal, social, technological, and other relevant benefits of the Project against its significant unavoidable environmental impacts when determining whether to approve the Project.

As described in Response to Comment No. 4-18 in Chapter II, Responses to Comments, of the Final EIR, the Project's impacts related to air quality, noise, transportation, and public services are included in Sections IV.A, IV.I, IV.K.1 and IV.K.2, and IV.L, respectively, of the Draft EIR. Mitigation measures for significant and unavoidable impacts are only required for temporary Project impacts related to noise (and vibration) during the construction period, and these are also provided in Section IV.I of the Draft EIR. The Final EIR also provides additional analysis related to air quality and health risk; however, no new significant impacts and no new mitigation measures were identified that warrant recirculation of the Draft EIR. Further, as discussed in the Chapter V, Other CEQA Considerations, of the Draft EIR, the Project's benefits that would outweigh its temporary construction impacts include, but are not limited to, supporting City and regional land use and environmental goals by developing on an urban infill site near public transportation that creates job opportunities, as well as providing public open space; providing a pedestrian connection between Colyton Street and South Hewitt Street, and sidewalks where none currently exist;

providing economic and employment opportunities and tax revenue for the City by providing a net increase of 1,270 jobs, as well as by generating sales, property, and business license tax revenues; developing a project that would represent smart growth through the intensification of urban uses within the highly urbanized Arts District area in close proximity to transit and providing jobs in close proximity to existing housing, thereby contributing to the jobs-housing balance; and representing sustainable development through compliance with the LAGBC and CALGreen and by incorporating additional energy conservation features and sustainability measures required to achieve Leadership in Energy and Environmental Design (or LEED) Silver certification pursuant to Project Design Feature GHG-PDF-1. Each of these overriding considerations are fully analyzed in the EIR, and separately and independently (i) outweighs the adverse environmental impacts of the Project and (ii) justifies adoption of the Project and certification of the completed EIR. Therefore, the Draft EIR and Final EIR provide the City with substantial evidence on the environmental impacts of the Project to support the statement of overriding considerations provided in the CEQA Findings contained in the Department of City Planning's Staff Report.[5]

[5] Department of City Planning, Planning Department Staff Report, Vesting Tentative Tract Map No. 74745, Available at: https://planning.lacity.org/plndoc/Staff_Reports/2023/08-14-2023/VTT_74745.pdf, Accessed on August 22, 2023.

Attachment A

Lozeau Drury LLP Comment Letter

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
1939 Harrison Street, Ste. 150
Oakland, CA 94612
www.lozeaudrury.com
Marjan@lozeaudrury.com

August 15, 2023
Via Email

Hearing Officer
Kathleen King, City Planner
City of Los Angeles
221 North Figueroa Street
Los Angeles, CA 90012
Kathleen.king@lacity.org

Re: Comment on Final Environmental Impact Report for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), August 16, 2023 Hearing Officer Hearing – Agenda Item No. 1

Dear Ms. King,

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Final Environmental Impact Report ("FEIR" or "Final EIR") prepared for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), proposed by the Applicant LIG – 900, 910 and 926 E. 4th St., 405-411 S. Hewitt St., LLC (the "Applicant"), including all actions related or referring to the 18-story office building that would provide a total of 343,925 square feet of floor area, and three subterranean levels of parking (SCH No. 2017091054) (the "Project").

After reviewing the FEIR, SAFER concludes that it fails as an informative document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, fails to consider the aerosphere as avian habitat, and fails to support its statement of overriding considerations with substantial evidence. SAFER therefore respectfully requests that the City of Los Angeles ("City") Department of City Planning deny approval of the FEIR, and to instead direct the City's Planning Division staff to address these shortcomings in a revised Environmental Impact Report ("REIR"), to be recirculated in accordance with the public review provisions of the California environmental Quality Act ("CEQA"). Public Resources Code, section 21000 et. seq.

SAFER's review of the EIR has been assisted by air quality experts Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D., of the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE") (CV and comments attached as Exhibit A); expert wildlife biologist Dr. Shawn Smallwood, PhD (comments attached as Exhibit B); and indoor air quality expert and Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH (CV and comments attached as Exhibit C).

PROJECT DESCRIPTION

The Project, located at 900-926 E. 4th Street; 406-414 S. Cloyton St.; and 405-423 S. Hewitt St., proposes to demolish an existing building, two storage/garage buildings, and surface parking lots. In its place, the Project will allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street.

The Project will include a total of 343,925 square feet of gross floor area, comprised of an existing 7,800 square-foot (existing Architecture and Design Museum) building and a new 336,125 square-foot office building, which would include approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space, 16,294 square feet of office exterior common areas, and a height of 292 feet to the top of the parapet and a maximum height of 297 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking, and the ground floor would also include 112 bicycle parking spaces.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See*, e.g.* Pub. Res. Code § 21100). The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652). "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 109).

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 CCR § 15002(a)(1)). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. ("*Goleta Valley*").

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *Goleta Valley*, 52 Cal.3d at 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (14 CCR §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it

has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B)). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal. App. 4th at 1355). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

(*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510).

"Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516). Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" (*Id.*). "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*). Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence. (*Id.* at 514.)

As applied this Project, the FEIR abjectly fails to meet these legal standards, as it is riddled with conclusory statements lacking any factual support or analysis. SAFER finds that the FEIR prepared for the Project is inadequate for the reasons set forth below.

DISCUSSION

I. Substantial Evidence Shows that the Project Will Have Significant Air Quality and Greenhouse Gas Impacts.

Air quality experts Matt Hagemann, P.G., C.Hg. and Dr. Paul E. Rosenfeld, PhD of the environmental consulting firm SWAPE reviewed the EIR and concluded that the Project will have significant air quality and greenhouse gas impacts. SWAPE's comments and expert CVs are attached as Exhibit A.

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

The Project's estimated emissions are underestimated. SWAPE reviewed the FEIR's CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs [were] not consistent with [the] information disclosed in the DEIR." (Ex. A., p. 2.).

SWAPE found that the EIR presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (*Id.*, p. 3.) This is notable because the CalEEMod User Guide explicitly requires the Project to justify any changes to model defaults. (*Id.*, p. 4). In the absence of any justification, the EIR "fails to provide substantial evidence to support the revised *individual* construction phase lengths." (*Id.*, p. 3) (emph. added). As SWAPE explains, "[b]y including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance." (*Id.*) Therefore, the model provided for the Project "may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (*Id.*, p. 4).

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14 CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to

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

b. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Health Risk Impact

The EIR fails to address potential health-related impacts resulting from the Project's likely air emissions. This is problematic because operation of construction equipment during construction of the proposed Project, as well as daily truck trips during future operations, will release diesel particulate matter ("DPM") emissions into the air, affecting local and regional air quality. DPM is a known human carcinogen which poses unique health risks to nearby sensitive receptors. Importantly, CEQA requires a quantified analysis to determine whether a Project's toxic air contaminant ("TAC") emissions—including DPM emissions—will have potentially adverse impacts on human health.

Current guidance by the Office of Environmental Health Hazard Assessment ("OEHHA"), the agency responsible for setting statewide standards to measure health risks under CEQA, recommends that a quantified Health Risk Assessment ("HRA") be prepared to evaluate potential cancer risks for any short-term construction project lasting more than two months, and for the lifetime of any long-term project lasting more than six months. OEHHA guidance also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk affecting the maximally exposed individual resident ("MEIR") near a proposed Project site. (*Id*., p. 10.) A project's imposition of health risks upon impacted MEIRs is further evaluated according to the sensitive receptor's age and pregnancy status. (*Id*., p. 14.)

Construction of the proposed Project is expected to last 30 months, and it is reasonable to assume, in the absence of any contrary assertion by the EIR, that future building operations will continue on the site for at least 30 years. Therefore, as SWAPE observes, "These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation." (*Id*., p. 9.)

Contrary to this established regulatory framework, however, the FEIR failed to prepare a quantified HRA for the Project's planned construction and operations. As such, the FEIR fails to present substantial evidence showing that the Project will not have a significant health impact, despite known health risks that will directly result from the Project's construction-related DPM emissions, its generation of hundreds of daily vehicle trips, and its projected TAC emissions that will impact local air quality during construction and future operations. (*Id*., pp. 8-9.) The FEIR additionally "fails to evaluate the combined lifetime cancer risk as a result of Project

construction and operation together" as it compares to the South Coast Air Quality Management District's ("SCAQMD") established significance threshold of 10 per million. (*Id*., p. 9.)

c. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Greenhouse Gas Impact

SWAPE rebuts the FEIR's unfounded assertions that the Project's greenhouse gas ("GHG") emissions will be less than significant. (*Id*., p. 11.). Specifically, SWAPE concludes that the Project's FEIR analysis and conclusion regarding the less-than-significant GHG impact is incorrect because the FEIR's quantitative GHG analysis relies on a flawed air model, the air model indicates a potentially significant GHG impact, and the FEIR fails to provide the CalEEMod model for the "No Action Taken" (NAT) scenario. (*Id*.).

First, SWAPE explains the FEIR's quantitative analysis is unsubstantiated because, as explained earlier, several input values are inconsistent with information provided in the FEIR. As SWAPE indicates, "the models may underestimate the Project's emissions, and the FEIR's quantitative analysis should not be relied upon to determine Project significance." Furthermore, in comparing the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold, SWAPE found that "the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact," thereby emphasizing how reliance on the FEIR's less-than-significant GHG impact conclusion to be improper.

Lastly, SWAPE found that the FEIR's estimate that the Project would have an 18% reduction of GHG emissions compared to the NAT scenario is unreliable because the FEIR "fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario." (*Id*., p. 13). As such, the FEIR's conclusion is not supported by substantial evidence and should be deemed invalid. Instead, before any approval on this Project is made, a revised FEIR should be prepared and recirculated to include an updated GHG analysis and incorporate additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels." (*Id*., p. 11-13.).

II. The Project Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Biological Resources Impact.

Expert Wildlife Biologist, Dr. Shawn Smallwood, PhD, has reviewed the FEIR and all relevant documents regarding the Project's biological impacts, notably on avian species. Based on this review, Dr. Smallwood concludes that the Project will likely impact bird species flying along the Los Angeles River. Dr. Smallwood is a leading expert on wildlife biology and has published extensively on the topic. Dr. Smallwood's CV and expert comments are attached as Exhibit B.

As a preliminary matter, Dr. Smallwood highlights the Project's failure to adequately analyze the Project's impact on wildlife movement. Given the Project's close proximity to the Los Angeles River and the newly constructed 6th street viaduct and the future green space/parks

system in underneath the bridge, as well as the likelihood of bird flight paths passing through the Bear Divide, "ample evidence is available that the site is important to wildlife in the region." (*Id*., p. 8). As such, the Project's failure to adequately assessment and analyze issues that the Project may raise on biological impacts underlines how the FEIR fails as an informational document.

In particular, Dr. Smallwood explains how the Project's height and proposed expansive windows on its façade come into direct conflict with the airspace normally used by birds. "Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors." (*Id*.). Additionally, bird collision issues are not time-restricted, especially since birds fly during both day and night. Dr. Smallwood expresses concern regarding the Project's potential to increase nighttime bird collisions, explaining how "[s] uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment." (*Id*., p. 6).

Given how birds protected under the Migratory Bird Treaty Act and California Migratory Bird Protection Act constitute the vast majority of the deaths along the Bear Divide, Dr. Smallwood opines that the Project's failure to neither analyze nor adequately provide mitigation measures to reduce bird collisions and deaths would result in a potentially significant biological impact. Therefore, a Final EIR "should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the Project." (*Id*., p. 11).

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

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the EIR and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future employees working at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann's CV and expert comments are attached as Exhibit C.

a. Future Employees Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. C., p. 2.)

Mr. Offermann explains that many composite wood products typically used in building materials and furnishings commonly found in offices, warehouses, residences, and hotels contain

formaldehyde-based glues which off-gas formaldehyde over a very long period of time. He states that "[t]he primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (*Id*., pp. 2-3.)

Mr. Offermann concludes that future full-time employees working at the proposed Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, ***even assuming*** that all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (*Id*., p. 4.) This risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

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

The EIR's failure to address the Project's formaldehyde emissions is also 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*"). In that case, the Supreme Court held that potentially adverse impacts to future users and residents resulting from a Project's environmental impacts must be addressed by the CEQA review process.

The issue before the Court in *CBIA* was whether an air district could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of existing environmental conditions that occurred near a project site. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects *on a project* (*CBIA*, 62 Cal.4th at 385-88). However, it ruled that agencies must still consider the extent to which a project may *exacerbate existing environmental conditions* at or near a project site, insofar as those conditions may affect the project's future users or residents. (*Id*. at 388.) Specifically, the Supreme Court wrote, 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 387 [emph. added].)

The Supreme Court's reasoning in *CBIA* is well-grounded in CEQA's statutory language. CEQA expressly identifies a project's effects on human beings as an effect that must be addressed as part of 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 386.) 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 future employees of the Project are human beings. It is therefore unquestionable that the health and safety of those workers is subject to CEQA's environmental safeguards.

b. The EIR Must Be Revised to Analyze and Mitigate the Project's Significant Adverse Indoor Air Quality and Health Impacts.

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 proposed Project will have significant impacts on health and air quality by emitting cancer-causing levels of formaldehyde into the air that will expose future employees working at the Project site to cancer risks potentially in excess of SCAQMD's significance threshold of 10 per million.

The carcinogenic formaldehyde emissions which Mr. Offermann identified are not an existing environmental condition. To the contrary, those emissions will be caused *by the Project* and will result in adverse effects on the environment. If built without appropriate mitigation, the Project will slowly emit formaldehyde over long periods of time to levels that pose significant direct and cumulative health risks to Project residents. Mr. Offermann underlines how "the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifie[d] an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air." (*Id*., pp. 4-5).

As noted above, the Supreme Court in *CBIA* expressly found that a Project's environmental impacts, including those that affect a "project's users and residents," must be addressed by the CEQA review process. Therefore, an EIR must be prepared to identify existing levels of TAC emissions near the Project site – such as those resulting from heavy daily truck traffic along the neighboring I-5 and I-10 freeways and corresponding industrial neighborhoods close to the Project site – and the impact that those will have on the health of future employees. Moreover, an EIR must evaluate the *cumulative adverse health effects* that will affect future employees as a result of the Project's indoor formaldehyde emissions *and* existing off-site TAC emissions.

Mr. Offermann concludes that these significant impacts should be analyzed in an EIR and that additional mitigation measures should be imposed to reduce the significant health risks that will result from indoor formaldehyde emissions. (*Id*., pp. 11-13.). Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and

health impacts which the EIR has failed to address. Therefore, the City must therefore prepare a REIR to fully evaluate and mitigate these impacts to the Project's future employees.

IV. The Project Must Implement Further Mitigation Measures to Reduce the Project's Significant Air Quality, Health Risk, Greenhouse Gas, and Biological Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564). Beyond its analysis of the FEIR's numerous analytical flaws, SWAPE, Dr. Smallwood, and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may be feasibly implemented to reduce the Project's significant air quality, human health, greenhouse gas, and biological impacts. This includes, as SWAPE suggests, considering the applicability of "incorporating solar power system into the Project design." (Ex. A, p. 17). Otherwise, other feasible measures include, but are not limited to, the following:

For issues related to air quality impacts:

- Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit;
- The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
    - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%
    - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
    - Nonroad diesel engines on site shall be Tier 2 or higher.
    - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
    - Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.

- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

For issues related to indoor air quality impacts:

- Imposing a requirement that the Applicant install air filters throughout the building; and
- Commit to using only composite wood materials that are made with CARB approved no-added formaldehyde (NAF) resins, or ultra-low emitting formaldehyde (ULEF) resins, for all of the buildings' interior spaces.

For issues related to GHG impacts:

- Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible;
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions;
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies;
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

For issues related to biological impacts:

- At a minimum, the Project should adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco, which includes adopting the following actions:
- 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; and
- funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care.

SAFER has presented substantial evidence that feasible mitigation measures exist to further reduce the Project's adverse impacts. Therefore, a revised FEIR must be developed to comply with CEQA by further analyzing the Project's likely adverse impacts and considering implementation of each of these proposed measures. The revised FEIR should "demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible." (*Id*., p. 17.) Until

such consideration of the feasibility of incorporating these mitigation measures has been analyzed, the Project should not be approved.

V. The FEIR Fails to Sufficiently Justify a Statement of Overriding Considerations.

The Project would result in significant and unavoidable impacts relative to specific noise impacts, including, off-road construction equipment noise, composite construction noise levels, off-road construction activity vibration (building damage), onroad construction vehicle vibration (human annoyance), cumulative off-road construction equipment noise, cumulative composite construction noise levels, and cumulative onroad construction vehicle vibration (human annoyance). (DEIR, p. I-11). As a result, the City will need to adopt a statement of overriding considerations. Under CEQA, when an agency approves a project with significant environmental impacts that will not be fully mitigated, it must adopt a "statement of overriding considerations" finding that, because of the project's overriding benefits, it is approving the project despite its environmental harm. (14 Cal.Code Regs. §15043; Pub. Res. Code §21081(B); Sierra Club v. Contra Costa County (1992) 10 Cal.App.4th 1212, 1222). A statement of overriding considerations expresses the "larger, more general reasons for approving the project, such as the need to create new jobs, provide housing, generate taxes and the like." (*Concerned Citizens of South Central LA v. Los Angeles Unif. Sch. Dist*. (1994) 24 Cal.App.4th 826, 847).

A statement of overriding considerations must be supported by substantial evidence in the record. (14 Cal. Code Regs. §15093(b); *Sierra Club v. Contra Costa Co*. (1992) 10 Cal.App.4th 1212, 1223)). The agency must make "a fully informed and publicly disclosed" decision that "specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project." (15 Cal. Code Regs. §15043(b)). As with all findings, the agency must present an explanation to supply the logical steps between the ultimate finding and the facts in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515).

Key among the findings that the lead agency must make is that:

> "Specific economic, legal, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report…[and that those] benefits of the project outweigh the significant effects on the environment."

(Pub. Res. Code §21081(a)(3), (b)). Thus, the City must make specific findings, supported by substantial evidence, concerning both the environmental impacts of the Project, and the economic benefits including "the provision of employment opportunities for highly trained workers" created. The EIR and its supporting documents fails to provide substantial evidence to support a statement of overriding considerations.

In short, the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be. A revised EIR, Fiscal Analysis and Statement of Overriding Considerations is required to provide this information.

CONCLUSION

In conclusion, SAFER believes that the FEIR fails as an informational document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, and fails to support its statement of overriding considerations with substantial evidence. In contrast, SAFER has presented substantial evidence of the EIR's various shortcomings and its corresponding failure to adequately disclose or mitigate the Project's likely significant adverse impacts. For these reasons, we respectfully request that the Planning Commission recommend that the City Council deny approval of the FEIR and instead direct City staff to prepare a revised FEIR in accordance with CEQA's public review provisions.

Sincerely,

Marjan Abubo
LOZEAU DRURY LLP

EXHIBIT A

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

August 11, 2023

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

Subject: Comments on the 4th and Hewitt Offices Project (SCH No. 2017091054)

Dear Mr. Abubo,

We have reviewed the Final Environmental Impact Report ("FEIR") for the 4th and Hewitt Offices Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to demolish the 7,030-square-foot ("SF") existing building and construct a 336,125-SF office building as well as a 39,751-SF parking lot on the 1.31-acre site.

Our review concludes that the FEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The FEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. III-14). [1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality

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

Act (“CEQA”) requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project’s construction and operational emissions are calculated, and “output files” are generated. These output files disclose to the reader what parameters are utilized in calculating the Project’s air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project’s CalEEMod output files, provided in the Air Quality Impact Analysis (“AQIA”) as Appendix B to the FEIR, we found that several model inputs are not consistent with information disclosed in the FEIR and associated documents. As a result, the Project’s construction-related and operational emissions may be underestimated. A revised EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the “4th and Hewitt Project MXD-TDM” model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	4.00	70.00
tblConstructionPhase	NumDays	200.00	547.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	NumDays	10.00	70.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 8, 9, 42, 43, 76, 77):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	12/5/2022	1/6/2023	5	25
2	Site Preparation	Site Preparation	12/31/2022	12/30/2022	5	0
3	Grading	Grading	1/9/2023	4/14/2023	5	70
4	Building Construction	Building Construction	4/17/2023	5/20/2025	5	547
5	Paving	Paving	2/5/2025	5/13/2025	5	70
6	Architectural Coating	Architectural Coating	2/5/2025	5/13/2025	5	70

As demonstrated in the excerpt above, the demolition phase is increased by 25%, from the default value of 20 to 25 days; the grading phase is increased by 1,650%, from the default value of 4 to 70 days; the building construction phase is increased by 174%, from the default value of 200 to 547 days; the paving phase is increased by 600%, from the default value of 10 to 70 days; and the architectural coating phase is increased by 600%, from the default value of 10 to 70 days. As previously mentioned, the CalEEMod

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

> "25 demo, 70 grading, 547 bldg, 70 pave and coat overlap bldg." (Appendix B, pp. 2, 36, 70).

Regarding the anticipated construction schedule, the FEIR states:

> "Construction of the Project is anticipated to begin in 2022 and would conclude in 2025, with an overall duration of 30 months" (p. III-7).

However, the revised construction schedule remains unsubstantiated. According to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA."[3]

As the FEIR only justifies the total construction duration of 30 months, the FEIR fails to provide substantial evidence to support the revised individual construction phase lengths. Until additional information is provided to justify the revised individual phase lengths, the model should have proportionally altered all phase lengths to match the proposed construction duration of 30 months.[4]

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[5]

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

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[2] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.
[4] See Attachment A for proportionately altered construction schedule.
[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

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

Incorrect Reduction to Acres of Grading Value

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes a reduction to the default acres of grading value (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	70.00	1.50

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is:

> "75,200 cy export." (Appendix B, pp. 3, 37, 71).

However, this change is incorrect. According to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres are based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[7]

As stated above, the default acres of grading values are based on the model's construction equipment and the length of the grading and site preparation phases. Here, the model changes the acres of the grading to reflect the acreage of the Project site. As the dimensions of the Project site have no impact on the acres of grading value, the revised value is unsubstantiated.

The unsubstantiated change presents an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[8] By including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

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[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/user's-guide, p. 9.
[8] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 9.

Unsubstantiated Changes to Solid Waste Generation Rates

Review of the CalEEMod output files demonstrates that "4th and Hewitt Project MXD-TDM" model includes several reductions to the default solid waste generation rates (see excerpt below) (Appendix B, pp. 4, 38, 72).

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	305.02	76.26
tblSolidWaste	SolidWasteGenerationRate	96.99	24.25

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is:

> "Required diversion" (Appendix FEIR-B, pp. 3, 37, 71).

Regarding the Project's solid waste generation rates, Appendix FEIR-B states:

> "Solid Waste Generation. The CalEEMod default solid waste generation inputs were adjusted to reflect a 75 percent reduction in solid waste disposal per the Assembly Bill 341 statewide goal for 2020" (Appendix B, pp. 19).

However, this justification remains insufficient. Even if the City achieves a 75% solid waste diversion rate does not guarantee the same diversion rate would be achieved locally at the Project site. Furthermore, the Exemption fails to provide substantial evidence or additional information regarding how the Project would achieve a 75% solid waste diversion rate. As such, we cannot verify the revised value.

This unsubstantiated reduction presents an issue, as CalEEMod uses the solid waste generation rate to calculate the Project's operation GHG emissions associated with the disposal of solid waste into landfills.[10] By including an unsubstantiated reduction to the default solid waste generation rate, the model may underestimate the Project's operational GHG emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the FEIR. In our updated model, we omitted the unsubstantiated reduction to the acres of grading value and the changes to solid waste generation rates; and included a proportionately adjusted construction schedule.[11]

Our updated analysis estimates that the Project's construction-related Reactive Organic Gases ("ROG") and Nitrogen Oxide ("NO_X") emissions both exceed the applicable SCAQMD thresholds of 75- and 100-

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[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 46.
[11] See Attachment B for revised air modeling.

pounds per day ("lbs/day"), respectively, as referenced by the FEIR (Appendix B, p. 10, Table 5) (see table below).

Maximum Daily Criteria Air Pollutant Emissions		
Construction Model	Construction	
	ROG	NOX
	(lbs/day)	
FEIR	48.6	44.2
SWAPE	126.1	238.0
% Increase	160%	439%
SCAQMD Threshold	**75**	**100**
Exceeds?	***Yes***	***Yes***

As demonstrated above, the Project's construction-related ROG and NO_X emissions, as estimated by SWAPE, increase by approximately 160% and 439%, respectively, and exceed the SCAQMD's applicable significance thresholds. Thus, our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the FEIR. As a result, a revised EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Diesel Particulate Matter Emissions Inadequately Evaluated

The FEIR conducts a health risk analysis ("HRA") evaluating impacts as a result of exposure to diesel particulate matter ("DPM") emissions from Project construction. Specifically, the FEIR estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project construction would be 3.1 in one million (Appendix C, p. 8, Table 4).

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	1.1E-07
0 to 2 years	2.8E-06
2 to 9 years	1.9E-07
Total	**3.1E-06**

Note: 3.1E-06 denotes an excess case of cancer of 0.31 in one hundred thousand (100,000) individuals exposed.

However, the FEIR fails to mention the TAC impacts or evaluate the health risks associated with Project operation. The EIR's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for six reasons.

First, the FEIR's construction-related HRA is incorrect, as it relies upon emissions estimates from a flawed air model. As previously discussed, upon review of the Project's CalEEMod output files, provided in Appendix B to the FEIR, we found that several model inputs are not consistent with information

disclosed in the FEIR. Therefore, the HRA may use an underestimated DPM concentration to calculate the health risk associated with Project construction. As such, the FEIR's construction-related HRA and the resulting cancer risk should not be relied upon to determine Project significance.

Second, the equation used to calculate the Project's construction-related cancer risk is incorrect as it fails to account for Age Sensitivity Factors ("ASF"). According to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the following ASF factors should be used when calculating cancer risks for different age groups:[12]

Age Group	Age Sensitivity Factor (unitless)
3rd Trimester	10
0<2 years	10
2<9 years	3
2<16 years	3
16<30 years	1
16-70 years	1

However, the HRA uses the following equation (see excerpt below) (Appendix C, p. 7):

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \text{ x } FAH$$

As demonstrated above, the equation used for the FEIR's construction-related HRA fails to include ASFs and is therefore incorrect. Instead, per OEHHA guidance, the FEIR should have used the following equation:[13]

A. Equation 8.2.4 A: **RISKinh-res = DOSEair × CPF × ASF × ED/AT × FAH**

7. RISK inh-res = Residential inhalation cancer risk
8. DOSEair = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[13] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

By failing to include ASF values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis correctly accounting for ASF values.

Third, the FEIR's construction-related HRA uses an underestimated Fraction of Time At Home ("FAH") value for the third trimester and infant receptors. Specifically, the HRA states:

> "The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations" (p. 7).

As demonstrated above, the construction-related HRA relies on an FAH value of 0.85 for third trimester and infant receptors. However, these FAH values are incorrect, as SCAQMD guidance clearly states:

> "For Tiers 1, 2, and 3 screening purposes, the FAH is assumed to be 1 for ages third trimester to 16. As a default, children are assumed to attend a daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area affected by the facility's emissions. People older than age 16 are assumed to spend only 73 percent of their time at home."[14]

As such, per SCAQMD guidance, the HRA should have used an FAH of 1 for the third trimester and infant receptors. Thus, by utilizing incorrect FAH values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis using correct FAH values.

Fourth, by failing to prepare a quantified operational HRA, the Project is inconsistent with CEQA's requirement to make "a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."[15] According to the FEIR, operation of the Project is anticipated to generate increased daily vehicle trips, which would generate additional exhaust emissions and expose nearby sensitive receptors to DPM emissions (p. III-16). However, the FEIR fails to evaluate the TAC emissions associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the Project is inconsistent with CEQA's requirement to correlate the Project-generated emissions with potential adverse impacts on human health.

Fifth, as previously discussed, OEHHA, the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types

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[14] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[15] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[16] Furthermore, according to OEHHA:

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[17]

OEHHA also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk at the maximally exposed individual resident ("MEIR").[18] While the FEIR fails to provide the expected lifetime of the proposed Project, we can reasonably assume that the Project would operate for at least 30 years, if not more. Thus, operation of the Project exceeds the 2-month and 6-month requirements set forth by OEHHA and should be evaluated for the entire 30-year residential exposure duration, as indicated by OEHHA guidance. These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation.

Sixth, while the FEIR includes an HRA evaluating the Project's health risk impacts to nearby, existing receptors as a result of Project construction, the FEIR fails to evaluate the combined lifetime cancer risk as a result of Project construction and operation together. According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[19] However, the FEIR's HRA fails to sum each age bin to evaluate the combined cancer risk over the course of the Project's total construction and operation. This is incorrect, and such an updated analysis should be prepared to quantify and sum the entirety of the Project's construction and operational health risks together to compare to the SCAQMD threshold of 10 in one million.

Failure to Identify a Significant Health Risk Impact

As previously discussed, the FEIR estimates that the maximum individual cancer risk posed to nearby, existing sensitive receptors as a result of Project construction would be 3.1 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (Appendix C, p. 8, Table 4) However, as previously discussed, the FEIR fails to incorporate ASF values in the calculation of the cancer risk. As such, the Project's cancer risk estimate is underestimated and should not be relied upon to determine Project significance.

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[16] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[17] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[18] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 2-4.
[19] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4

In order to accurately evaluate the FEIR's construction-related cancer risk, we used the following equation which includes ASFs:

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

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

As previously discussed, according to OEHHA guidance, the appropriate ASF value for third trimester and infant receptors is 10. When correctly accounting for ASFs, the FEIR's estimated cancer risk increases to 31 in one million (see table below).

Project Construction Cancer Risk

Source	**Cancer Risk** (in one million)
FEIR (without ASFs)	3.1
FEIR (with ASFs)	31.0
SCAQMD Threshold	**10**
Exceeds?	***Yes***

As demonstrated in the table above, the resulting cancer risk estimate exceeds the SCAQMD threshold of 10 in one million, thus indicating a potentially significant health risk impact not previously identified or addressed by the FEIR. As such, the FEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. According to CEQA Guidelines § 15096(g)(2):

> "When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

As a result, the proposed Project should not be approved until all feasible mitigation has been considered and incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." As such, the FEIR fails to identify and adequately mitigate the Project's significant health risk impact and a revised EIR should be prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The FEIR estimates that the Project would generate net annual GHG emissions of 6,258 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. IV.E-54, Table IV.E-8). As a result, the FEIR concludes:

> "As shown above, GHG emissions generated by the Project would be approximately 6,258 $MTCO_2e$ per year, as compared to approximately 7,663 $MTCO_2e$ per year that would result from the NAT scenario. As such, the Project would achieve an approximately 18 percent reduction in GHG emissions when compared to the NAT scenario" (p. IV.E-54 – IV.E-55)

Furthermore, regarding the No Action Taken ("NAT") scenario, the FEIR states:

> "To demonstrate that the Project's characteristics and design features result in a reduction of GHG emissions, CalEEMod was also used to estimate the GHG emissions that would have been generated by the Project if not for its specific characteristics (the No Action Taken, or NAT, scenario). The NAT scenario is conveyed as a point of comparison to show that GHG emissions generated by the Project as proposed would be less than those that could be generated by a similar scale development in the absence of any reduction features or mitigation measures beyond those required by federal, State, and local regulations" (p. IV.E-39).

As demonstrated above, the FEIR claims that the Project would emit less than other similar developments in a NAT scenario. However, the FEIR's analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

(1) The FEIR's quantitative GHG analysis relies upon a flawed air model;
(2) The FEIR's unsubstantiated air model indicates a potentially significant impact; and
(3) The FEIR fails to provide the CalEEMod model for the NAT scenario.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). However, the FEIR's quantitative analysis is unsubstantiated. As previously discussed, when reviewing the Project's CalEEMod models we found that several of the values inputted into the models are not consistent with information disclosed in the FEIR. As a result, the models may underestimate the Project's emissions, and the FEIR's quantitative analysis should not be relied upon to determine Project significance. A revised EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

2) Failure to Identify a Potentially Significant GHG Impact

In an effort to quantitatively evaluate the Project's GHG emissions, we compared the Project's GHG emissions, as estimated by the FEIR, to the SCAQMD 2035 service population efficiency target of 3.0 MT

CO_2e/SP/year, which was calculated by applying a 40% reduction to the 2020 targets.[20] When applying this threshold, the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). According to CAPCOA's *CEQA & Climate Change* report, a service population ("SP") is defined as "the sum of the number of residents and the number of jobs supported by the project."[21] The FEIR indicates that the Project would employ 1,270 people during operation (p. IV.A-35). As the Project does not include any residential land uses, we estimate a SP of 1,270 people.[22] When dividing the Project's net annual GHG emissions, as estimated by the FEIR, by a SP of 1,270 people, we find that the Project would emit approximately 4.9 MT CO_2e/SP/year (see table below).[23]

FEIR Greenhouse Gas Emissions	
Annual Emissions (MT CO_2e/year)	6,258
Service Population	1,270
Service Population Efficiency (MT CO_2e/SP/year)	4.9
SCAQMD 2035 Target	**3.0**
Exceeds?	***Yes***

As demonstrated above, the Project's service population efficiency value, as estimated by the FEIR's provided net annual GHG emission estimates and SP, exceeds the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, indicating a potentially significant impact not previously identified or addressed by the FEIR and associated documents. As a result, the FEIR's less-than-significant GHG impact conclusion should not be relied upon. A revised EIR should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels.

3) Failure to Provide the CalEEMod Model for NAT Scenario

As previously mentioned, the FEIR relies on a CalEEMod model of an NAT scenario to determine whether the Project's GHG emissions would have a significant impact (p. IV.E-39). Specifically, the FEIR estimates that the Project would have a 18% reduction of GHG emissions when compared to the NAT scenario. (p. IV.E-39 - 41).

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[20] "Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15." SCAQMD, September 2010, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, p. 2.
[21] "CEQA & Climate Change." California Air Pollution Control Officers Association (CAPCOA), January 2008, *available at:* https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf, p. 71-72.
[22] Calculated: 1,270 employees + 0 residents = 1,270 total SP.
[23] Calculated: (6,258 MT CO_2e/year) / (1,270 service population) = (4.9 MT CO_2e/SP/year).

However, this statement is unreliable as the FEIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. As such, we cannot confirm that any of the project specific characteristics would result in a reduction in GHG emissions. Additionally, to reduce the Project's GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality, health risk, and GHG impacts that should be mitigated further. In an effort to reduce the Project's emissions, we recommend consideration of SCAG's 2020 *RTP/SCS* PEIR's Air Quality Project Level Mitigation Measures ("PMM-AQ-1") and Greenhouse Gas Project Level Mitigation Measures ("PMM-GHG-1"), as described below: [24]

SCAG RTP/SCS 2020-2045
Air Quality Project Level Mitigation Measures – PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:
a) Minimize land disturbance.
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
c) Cover trucks when hauling dirt.
d) Stabilize the surface of dirt piles if not removed immediately.
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
f) Minimize unnecessary vehicular and machinery activities.
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.

[24] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." Southern California Association of Governments (SCAG), May 2020, *available at:* https://scag.ca.gov/peir.

j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
k) Ensure that all construction equipment is properly tuned and maintained.
l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.
m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.
r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD “SOON” funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.
z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
bb) The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible: - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85% - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%. - Nonroad diesel engines on site shall be Tier 2 or higher. - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or

CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.

- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
    - i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
    - ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
    - iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:
    - i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
    - ii. Any problems with the equipment or emission controls.
    - iii. Certified copies of fuel deliveries for the time period that identify:
        1. Source of supply
        2. Quantity of fuel
        3. Quantity of fuel, including sulfur content (percent by weight)

Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1

In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.

c) Include off-site measures to mitigate a project's emissions.

d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:

- i. Use energy and fuel-efficient vehicles and equipment;
- ii. Deployment of zero- and/or near zero emission technologies;
- iii. Use lighting systems that are energy efficient, such as LED technology;
- iv. Use the minimum feasible amount of GHG-emitting construction materials;
- v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
- vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;

vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above.
e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following: i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program;
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that: i. Provide car-sharing, bike sharing, and ride-sharing programs; ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services; iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes.
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
j) Land use siting and design measures that reduce GHG emissions, including: i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit;

iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
m) Encourage telecommuting and alternative work schedules, such as: i. Staggered starting times ii. Flexible schedules iii. Compressed work weeks
n) Implement commute trip reduction marketing, such as: i. New employee orientation of trip reduction and alternative mode options ii. Event promotions iii. Publications
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: i. Explicitly charging for parking for its employees; ii. Implementing above market rate pricing; iii. Validating parking only for invited guests; iv. Not providing employee parking and transportation allowances; and v. Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

A revised EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

Disclaimer

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

Sincerely,

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

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	343	0.0583	890	52
Site Preparation	2	343	0.0058	890	5
Grading	4	343	0.0117	890	10
Construction	200	343	0.5831	890	519
Paving	10	343	0.0292	890	26
Architectural Coating	10	343	0.0292	890	26

	Total Default Construction Duration	Revised Construction Duration
Start Date	12/5/2022	12/5/2022
End Date	11/13/2023	5/13/2025
Total Days	343	890

Attachment B

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0609	1,199.0609	0.0940	0.1069	1,233.2671
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4510	714.4510	0.0536	0.0395	727.5740
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0609**	**1,199.0609**	**0.0940**	**0.1069**	**1,233.2671**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0606	1,199.0606	0.0940	0.1069	1,233.2667
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4508	714.4508	0.0536	0.0395	727.5737
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0606**	**1,199.0606**	**0.0940**	**0.1069**	**1,233.2667**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-5-2022**	**3-4-2023**	1.8672	1.8672
2	**3-5-2023**	**6-4-2023**	0.6054	0.6054
3	**6-5-2023**	**9-4-2023**	0.6027	0.6027
4	**9-5-2023**	**12-4-2023**	2.2476	2.2476
5	**12-5-2023**	**3-4-2024**	0.6301	0.6301
6	**3-5-2024**	**6-4-2024**	0.5775	0.5775
7	**6-5-2024**	**9-4-2024**	0.5749	0.5749
8	**9-5-2024**	**12-4-2024**	0.5749	0.5749

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**12-5-2024**	**3-4-2025**	0.1894	0.1894
		Highest	2.2476	2.2476

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	

3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	
5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6309	230.6309	0.0392	0.0000	231.6100
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6309**	**230.6309**	**0.0392**	**0.0000**	**231.6100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6306	230.6306	0.0392	0.0000	231.6097
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6306**	**230.6306**	**0.0392**	**0.0000**	**231.6097**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9108	237.9108	0.0396	0.0000	238.9013
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9108**	**237.9108**	**0.0396**	**0.0000**	**238.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9105	237.9105	0.0396	0.0000	238.9010
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9105**	**237.9105**	**0.0396**	**0.0000**	**238.9010**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3042	15.3042	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3042**	**15.3042**	**4.8500e-003**	**0.0000**	**15.4254**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3041	15.3041	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3041**	**15.3041**	**4.8500e-003**	**0.0000**	**15.4254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Unmitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.7122	1,832.7122	0.0874	0.0106	1,838.0542
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.7122	1,832.7122	0.0874	0.0106	1,838.0542
NaturalGas Mitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899
NaturalGas Unmitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e+006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e+006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e+006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e+006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Unmitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	70.6564	0.5219	0.0126	87.4661
Unmitigated	70.6564	0.5219	0.0126	87.4661

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.6044	4.8227	0.0000	202.1714
Unmitigated	81.6044	4.8227	0.0000	202.1714

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Total	**0.0106**	**0.0473**	**0.0270**	**5.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5500e-003**	**1.5500e-003**	**0.0000**	**4.9047**	**4.9047**	**6.9000e-004**	**0.0000**	**4.9219**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.494 2	2,259.494 2	0.7308		2,277.763 3
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.494 2**	**2,259.494 2**	**0.7308**		**2,277.763 3**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.787 7	2,001.787 7	0.3399		2,010.285 8
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.787 7**	**2,001.787 7**	**0.3399**		**2,010.285 8**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.0186	1,953.0186	0.0667	0.2811	2,038.4497
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.8062	2,137.8062	0.0502	0.0472	2,153.1322
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.8248**	**4,090.8248**	**0.1169**	**0.3283**	**4,191.5819**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.018 6	1,953.018 6	0.0667	0.2811	2,038.449 7
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.806 2	2,137.806 2	0.0502	0.0472	2,153.132 2
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.824 8**	**4,090.824 8**	**0.1169**	**0.3283**	**4,191.581 9**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.688 0**	**1,297.688 0**	**0.4114**		**1,307.972 5**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Unmitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6005	5,983.6005	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6004	5,983.6004	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.494 2	2,259.494 2	0.7308		2,277.763 3
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.494 2**	**2,259.494 2**	**0.7308**		**2,277.763 3**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.218 6	1,921.218 6	0.0669	0.2769	2,005.418 7
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.544 8	1,956.544 8	0.0460	0.0471	1,971.723 9
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.763 4**	**3,877.763 4**	**0.1129**	**0.3240**	**3,977.142 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.688 0**	**1,297.688 0**	**0.4114**		**1,307.972 5**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Unmitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

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

Education:

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

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

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

Positions Matt has held include:

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

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

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

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

Policy:

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

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: **prosenfeld@swape.com**

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

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

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

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

Professional Experience

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

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

Professional History:

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

Publications:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Teaching Experience:

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

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

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

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

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

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

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

Academic Grants Awarded:

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

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

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

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

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

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

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

Deposition and/or Trial Testimony:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EXHIBIT B

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Courtney Shum, City Planner
221 North Figueroa Street, Room 1350
Los Angeles, California, 90012 3 August 2023

RE: 4th & Hewitt Project

Dear Ms. Shum,

I write to comment on potential impacts to biological resources that could result from the proposed project at site at 900, 902, 904, 906-910, and 926 East 4th Street; 406, 408, and 414 Colyton Street; 405, 407, 411, 417, and 423 South Hewitt Street (ENV-2017-470-EIR). I understand the project would include 343,925 square feet of office space with some commercial space in an 18-story, 292-foot-tall building on 1.31-acres. I am concerned that the project would cause significant impacts to biological resources that have not been analyzed in the DEIR. In particular, the DEIR entirely neglects to consider the aerosphere as avian habitat.

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

EXISTING ENVIRNMENTAL 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, neither of these needed steps were taken.

Environmental Setting informed by Field Surveys

No surveys for wildlife have been completed at the project site. The lack of surveys leaves the City of Los Angeles blind to any potential project impacts to biological resources, because without a survey there is no sound basis for characterizing the existing environmental setting. Of particular concern is that portion of the aerosphere overlying the footprint of the proposed building, and which species of birds and how many birds might fly through that airspace. Going forward with the project without completing appropriate wildlife surveys would be indefensible.

Environmental Setting informed by Desktop Review

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

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

In my assessment based on database review, 112 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 1). Of these 112 species, 92 are birds that are capable of flying within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 92 special-status species of birds, 31 (34%) have been documented within 1.5 miles of the site ('Very close'), 29 (32%) within 1.5 and 4 miles ('Nearby'), and another 32 (35%) within 4 to 30 miles ('In region'). Two-thirds (65%) of the species in Table 1 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting many special-status species of birds based on proximity of recorded occurrences.

Table 1. *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.*

Common name	***Species name***	**Status[1]**	**Data base records**
Monarch	*Danaus plexippus*	FC	Very close
Brant	*Branta bernicla*	SSC2	In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL	Nearby
Redhead	*Aythya americana*	SSC2	Nearby
Western grebe	*Aechmophorus occidentalis*	BCC	Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2, BCC	Very close
Costa's hummingbird	*Calypte costae*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	Very close
Mountain plover	*Charadrius montanus*	SSC2, BCC	In region
Snowy plover	*Charadrius nivosus*	BCC	In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	In region
Whimbrel[2]	*Numenius phaeopus*	BCC	Nearby
Long-billed curlew	*Numenius americanus*	WL	In region
Marbled godwit	*Limosa fedoa*	BCC	In region
Red knot (Pacific)	*Calidris canutus*	BCC	In region
Short-billed dowitcher	*Limnodromus griseus*	BCC	In region
Willet	*Tringa semipalmata*	BCC	Very close
American avocet[2]	*Recurvirostra americana*	BCC	Very close
Laughing gull	*Leucophaeus atricilla*	WL	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	Very close
California least tern	*Sternula antillarum browni*	FE, CE, FP	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3	In region
Black tern	*Chlidonias niger*	SSC2, BCC	In region
Elegant tern	*Thalasseus elegans*	BCC, WL	In region
Black skimmer	*Rynchops niger*	BCC, SSC3	In region
Common loon	*Gavia immer*	SSC	In region
Brandt's cormorant	*Urile penicillatus*	BCC	In region
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC	Very close

Common name	***Species name***	**Status[1]**	**Data base records**
California brown pelican	*Pelecanus occidentalis californicus*	FP	In region
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, CFP	Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	Very close
Ferruginous hawk	*Buteo regalis*	WL, BOP	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP	In region
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Barn owl	*Tyto alba*	BOP	Very close
Western screech-owl	*Megascops kennicotti*	BOP	Nearby
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Lewis's woodpecker	*Melanerpes lewis*	BCC	Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Very close
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	CFP, BOP	Very close
Prairie falcon	*Falco mexicanus*	WL, BOP	In region
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Nearby
Willow flycatcher	*Empidonax trailii*	CE	Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Nearby
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby

Common name	***Species name***	**Status[1]**	**Data base records**
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Nearby
Cassin's finch	*Haemorhous cassinii*	BCC	In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	In region
Black-chinned sparrow	*Spizella atrogularis*	BCC	In region
Gray-headed junco	*Junco hyemalis caniceps*	WL	Nearby
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Nearby
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Hepatic tanager	*Piranga flava*	WL	In region
Summer tanager	*Piranga rubra*	SSC1	Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In region
Canyon bat	*Parastrellus hesperus*	WBWG:L	In region
Big brown bat	*Episticus fuscus*	WBWG:L	In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	Nearby
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	Nearby
Hoary bat	*Lasiurus cinereus*	WBWG:M	Nearby
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Western small-footed myotis	*Myotis cililabrum*	WBWG:M	In region
Miller's myotis	*Myotis evotis*	WBWG:M	In region
Little brown myotis	*Myotis lucifugus*	WBWG:M	In range
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
California myotis	*Myotis californicus*	WBWG:L	In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	Very close
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	Very close
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In region

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

Because the project would consist of a tall building largely covered in glass, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,360 birds of 113 species have been recorded flying into the Los Angeles area from 16 countries of the Americas, from as far away as Argentina and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgBoABgCsAiQHYCOClACoARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, 43,900 birds flew across portions of Los Angeles County during the night of 2 August 2023, the night before I completed my comments. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area. Many of these birds likely follow along the Los Angeles River, which passes near the site of the proposed project. One of the likely flight paths would be right across that portion of the aerosphere that overlies the footprint of the proposed building (Figure 1).

Bird flights average 35,200 per night during the nights of peak migration (https://dashboard.birdcast.info/region/US-CA-037). Most of these flights range in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Los Angeles, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the height of the proposed building. Assuming this percentage also applies to birds flying across the aerosphere overlying Los Angeles, then at peak migration documented by BirdCast, one can expect 4,541 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in Los Angeles comes in the forms of buildings and trees. In summary, the basis exists for concern that a large

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

number of birds might routinely fly through the aerosphere that would be displaced by the proposed 292-foot-tall building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

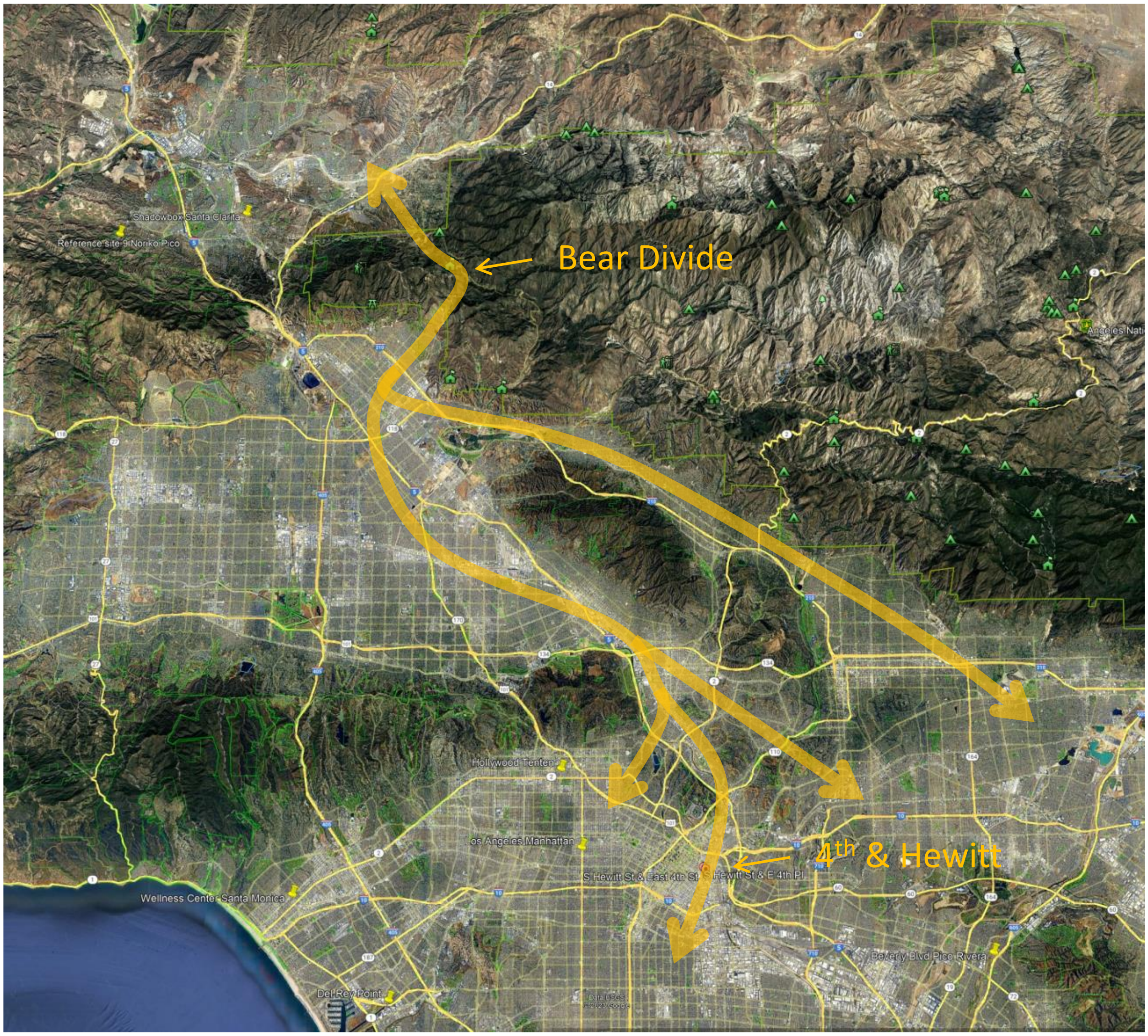

Figure 1. *Likely flight paths of birds passing through Bear Divide, which has been found to serve as a major pathway of bird migration through Los Angeles County (Terrill et al. 2021). The terrain in the map is exaggerated for improved visibility of how birds are likely channeled by the landscape.*

The DEIR should be revised to include an analysis of potential project impacts to birds and how to best mitigate those impacts. Adequate surveys and desktop review is needed to characterize the existing environmental setting in support of an EIR. And the environmental setting of principal concern in this case – the aerosphere – should be carefully examined for migratory bird traffic.

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how the proposed project would affect species of birds. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting, which in the case of this project would be the aerosphere of the project area. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and three important types of potential project impact have not been analyzed.

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. No analysis has been completed to address this concern. Ample evidence is available that the site is important to wildlife movement in the region (see above comments on flight activity). Considering the level of nocturnal flight activity in Los Angeles, the project's impact to wildlife movement would be significant, and as the project is currently proposed, this impact would be unmitigated.

BIRD-WINDOW COLLISIONS

The project would add an 18-story, 292-foot-tall building with expansive windows on its facade. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

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

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also,

the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

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

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

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) 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 at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142

bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 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 m^2 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 DEIR does not disclose the extent of glass windows and glass railings on the proposed new building. I therefore measured the extents of windows (though not of the railings) depicted in the building schematics within the DEIR, but I omitted the windows on the 2nd through 5th floors which consisted of a fine grain of small panels separated by framing. Based on my measurements, I estimate the project would include 10,425 m^2 of large-paneled glass in the project building's facades. Applying the mean fatality rate (above) to 10,425 m^2 of glass, I predict annual bird deaths of 762 (95% CI: 452–1,072).

The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised 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. The

EIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 14–17), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 14. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 15. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 16 and 17. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.*)

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

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-

legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts an annual VMT of 7,222,925. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the DEIR's predicted annual VMT would predict 3,958 vertebrate wildlife fatalities per year. However, fewer animals would be killed in the urbanized part of Los Angeles that surrounds the project site as compared to the study area of Mendelsohn et al. (2009), so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would range between 5% to 10% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 198 to 396, which would be a significant, unmitigated impact to wildlife caused by the project.

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

CUMULATIVE IMPACTS

The project would insert an 18-story building into the airspace that has been used by volant wildlife for many thousands of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other mid-rise and high-rise buildings in the area. The project would also cause a predicted 762 (95% CI: 452–1,072) bird-window collision fatalities per year, and would generate a predicted additional 21,481,388 annual VMT, which would contribute 198 to 396 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Los Angeles. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The DEIR proposes no mitigation for potential project impacts to wildlife, including for impacts to flying birds. Below are recommendations for mitigation to be added to a revised DEIR.

RECOMMENDED MEASURES

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

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

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

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

The City of Los Angeles should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

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

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

Thank you for your consideration,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

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EXHIBIT C

IEE INDOOR ENVIRONMENTAL ENGINEERING IEE
1448 Pine Street, Suite 103 San Francisco, California 94109
Telephone: (415) 567-7700
E-mail: offermann@IEE-SF.com
http://www.iee-sf.com

Date: August 15, 2023

To: Marjan Kris Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 4th and Hewitt Project, Los Angeles, CA
(IEE File Reference: P-4736)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 μg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 $\mu g/m^3$, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 $\mu g/m^3$. The median indoor formaldehyde concentration was 36 $\mu g/m^3$, and ranged from 4.8 to 136 $\mu g/m^3$, which corresponds to a median exceedance of the 2 $\mu g/m^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 $\mu g/m^3$, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

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

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

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

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

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to 4th and Hewitt Project, Los Angeles, CA, the buildings consist of commercial office spaces.

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

Assuming that the office building employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day is 161 µg/day.

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

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

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

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V")

identifies an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

<u>Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment</u>

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

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

NOTE: As a result of the high-performance building rating systems and building codes

(California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and

reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

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

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

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

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 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.) <u>Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks</u>. 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.

<u>Outdoor Air Ventilation Impact</u>. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is close to roads with moderate to high traffic (e.g., East 4th Street, East 4th Place, East 3rd Street, East 5th Street, South Hewitt Street, Colyton Street, etc.) and in Table IV-I-25 reports that the future plus Project ambient traffic noise levels will range from 55.1 to 71.7 dBA CNEL.

Thus, the Project is located in a sound impacted area and the building envelope and windows require 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.

<u>$PM_{2.5}$ Outdoor Concentrations Impact</u>. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 791 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct

testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

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

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

Attachment B

Operation Health Risk Assessment

September 15, 2022

Envicom Corporation
4165 East Thousand Oaks Boulevard, Suite 290
Westlake Village, California 91362
Attn: Travis Cullen

Re: 4th and Hewitt Project - Operation Health Risk Assessment

Mr. Cullen:

At your direction, Air Quality Dynamics has prepared a operation health risk assessment (HRA) to quantify the impact of diesel particulate matter (DPM), which is identified as a toxic air contaminant pursuant to California Code of Regulations Section 93001, associated with the use of a proposed emergency standby generator. This was done to supplement the air quality analysis prepared by Envicom Corporation, which evaluated criteria pollutant exposures associated with project operation.

The HRA quantifies both carcinogenic risks and noncarcinogenic hazards for the maximum exposed sensitive receptors located in proximity to the Project Site. A sensitive receptor is any residence, as well as schools, daycare centers and health facilities or similar live-in housing. To ensure a viable quantification of exposure, the technical approach used in the preparation of the HRA was composed of all relevant and appropriate assessment and dispersion modeling methodologies presented by the U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA) and South Coast Air Quality Management District (SCAQMD).

Results of the HRA showed that carcinogenic risk and noncarcinogenic hazard estimates for the maximum exposed sensitive receptors did not exceed identified significance thresholds. The following discussion outlines the methodology utilized to conduct the HRA and summarizes the protocol used to evaluate DPM exposures.

Source Identification

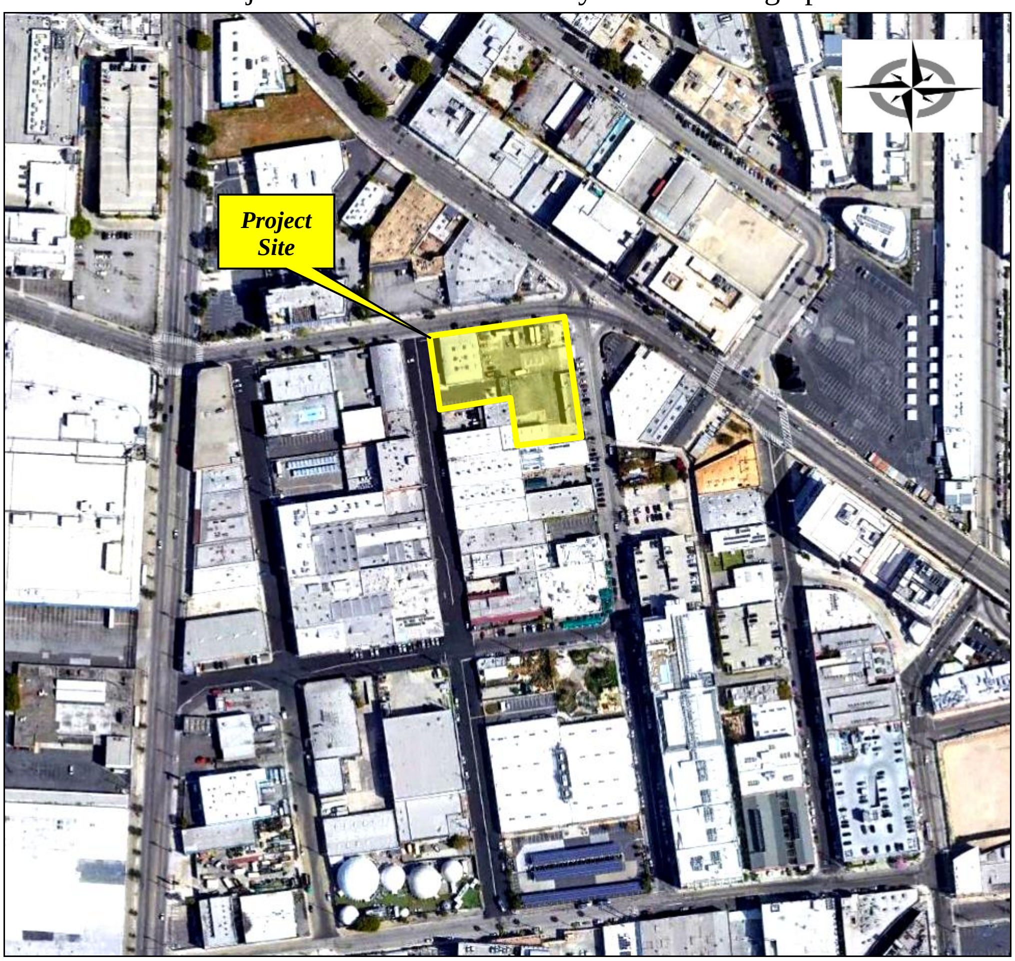
The Project proposes the construction of an 18-story Office Building. The Office Building would accommodate approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space and 16,294 square feet of office exterior common areas. Vehicle parking spaces would be provided within three subterranean levels and on the 2nd through 5th floors. Office space would comprise the 6th through 17th floors, with mechanical equipment located on the 18th floor. The height of the building extends above the 18th floor with a decorative slotted/mesh rooftop (parapet) and elevator overrun enclosure to an elevation of 297 feet above local terrain.

The 1.31 acre Project Site is located along East 4th Street between South Hewitt Street to the east and Colyton Street to the west. Industrial/commercial uses predominate to the south. The northwest portion of the site is comprised of the building formerly occupied by the Architecture and Design (A+D) Museum (0.23 acres) which is not subject to proposed site development with the exception of minor sidewalk improvements and related utility connections. The Project is located within the Central City North Community Plan area with a land use designation of M3-1-RIO (Heavy Industrial, Height District No. 1, River Improvement Overlay). The neighboring community consists of a mix of low intensity industrial warehouse/commercial uses, including several live/work and residential occupancies. In consideration of sensitive land uses, the following list identifies the occupancies and their relative location proximate to the Project Site.

- 825 East 4th Street - 190 feet northwest
- 801 East 4th Place - 350 feet north
- 428 South Hewitt Street - 80 feet southeast
- 510 South Hewitt Street - 380 feet southeast
- 442 Colyton Street - 200 feet south

Figure 1 presents an aerial photograph of the Project location and neighboring community.

Figure 1
Project Site Location /Vicinity Aerial Photograph



Source Characterization

For operation, on-site emissions are associated with area, energy, mobile and stationary sources. Area source emissions include hearths and landscape maintenance equipment. Energy related emissions are associated with natural gas and electricity consumption. Mobile sources include vehicle running and start emissions. In consideration of these source categories, DPM emissions are associated with a portion of the mobile source profile whereby the predominant source of emissions relate to vehicle miles traveled to and from the Project Site. Although a portion of start emissions are generated on-site, they are associated with gasoline fueled vehicles and not diesel vehicles. Service deliveries for proposed restaurant uses would entail the operation of transportation refrigeration units (TRUs), however, their operation would be well below the threshold of 40 trucks per day as recommended by CalEPA (*Air Quality Land Use Handbook: A Community Health Perspective*) to warrant further consideration. For stationary emissions, the use of a proposed diesel-fueled emergency standby generator was identified as the only on-site DPM emission source subject to further analysis.

The emergency standby generator will be used to maintain fire/life safety systems during a power failure and/or related electrical system interruption. The generator specifications were provided by the Project Applicant for standby service manufactured by MTU (model 16V2000 DS 1000). The equipment meets USEPA Tier 2 and California Air Resources Board Airborne Toxic Control Measure emission standards.

For equipment located within the South Coast Air Basin, emergency standby generators with power outputs greater than 50 brake horsepower (bhp) are limited to 200 operational hours per year during emergency power failures and related testing and maintenance. The MTU generator noted above is rated above 50 bhp whereby it is subject to operating conditions established by the SCAQMD. Table 1 provides the standby generator operating parameters considered in the assessment.

Table 1
Generator Specifications

Application	Unit
Maximum Brake Horsepower (bhp)	1,839
Exhaust Gas Temperature (°F)	941
Exhaust Gas Flow Rate (CFM)	9,535
Exhaust Stack Diameter (inches)	12
Load Factor (percent)	100
Particulate Exhaust Emissions (g/bhp-hr)	0.15
Operational Hours (year)	200

Exposure Quantification

In order to assess the impact of DPM emissions, air quality modeling utilizing the American Meteorological Society (AMS)/EPA Regulatory Model (AERMOD) was performed. AERMOD is a steady-state Gaussian plume model applicable to directly emitted air pollutants that employs best state-of-practice parameterizations for characterizing meteorological influences and atmospheric dispersion. AERMOD is the USEPA's guideline model for the assessment of near-field pollutant dispersion.

The emergency standby generator was modeled as a point source with an emission rate of 0.07663 grams/second, utilizing the operating parameters identified in Table 1. The emission calculation worksheet is provided in Attachment B. An exhaust stack release height of 16.45 feet was assigned based upon the manufacturer's dimensional plan designs. The California Air Resources Board provides guidance (*Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, 2000) on the methodology for estimating ambient concentrations from DPM emission sources. Based upon this guidance, the intermittent use for the emergency standby generator was characterized by determining operational hours/day over a 365 day/year timeline. For 200 operational hours, the resultant value is 0.5479 hours/day (i.e., 200 hours/day / 365 days/year). This value was assigned to a given hour (scalar) producing the highest predicted concentration (i.e., ending hour 5). A scalar value of 0 was used for the remaining non-operational hours.

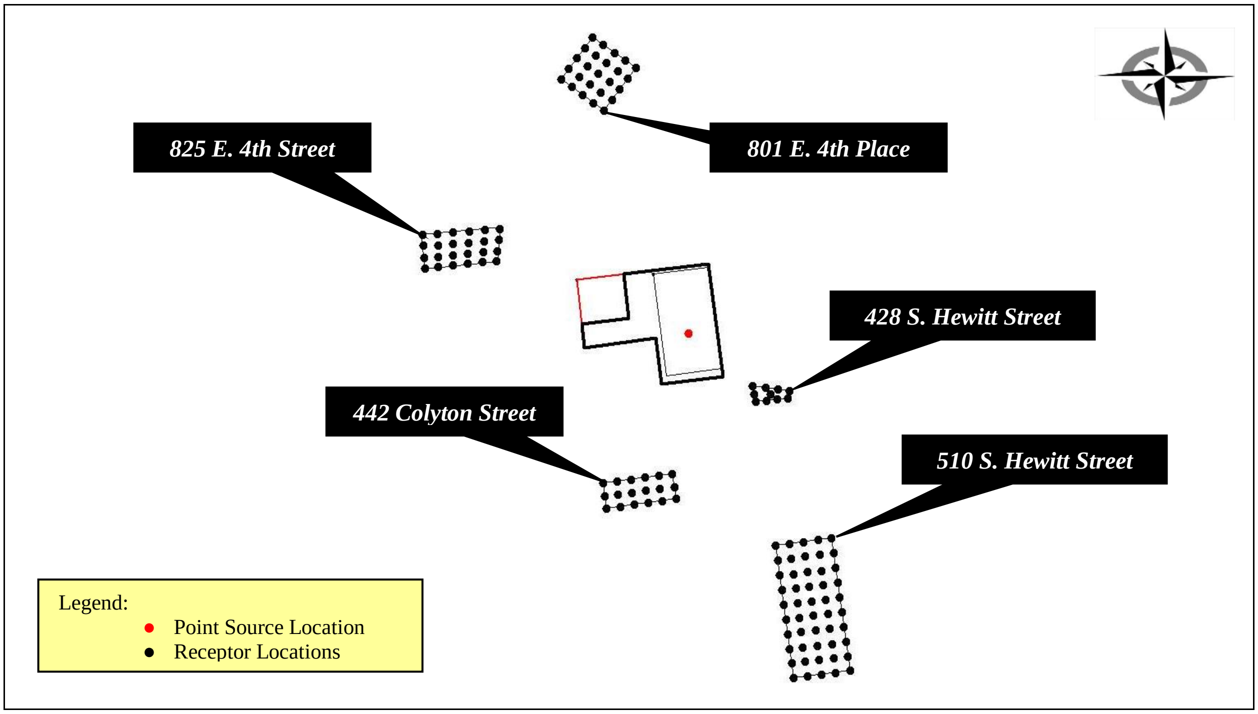
For this assessment, it was reported that the emergency standby generator would be placed on the mechanical equipment floor level, 274 feet above local terrain, whereby the building structure would influence the dispersion of the exhaust gas stream. As such, Plume Rise Modeling Enhancements (PRIME) incorporated in AERMOD were used to account for the influence of plume dispersion effects on the aerodynamic wakes and eddies produced by the building on the emission source. The direction-specific building dimensions used as inputs were determined by the Building Profile Input Program (BPIP PRIME). The parapet height was not considered based upon its design to allow air movement through the slotted/mesh configuration.

To accommodate a Cartesian grid format, direction dependent calculations were obtained by identifying the universal transverse mercator (UTM) coordinates for the source location and sensitive receptors proximate to the Project Site. A flagpole receptor height of two meters was assigned for each receptor location, with the exception of 428 South Hewitt Street, which was assigned a flagpole height of 6.1 meters, to accommodate the location of a trailer/motorhome situated atop the two-story commercial structure. Terrain height adjustments were additionally incorporated into the modeling exercise. A graphical representation of the source-receptor grid network, which identifies the sensitive receptor locations, is presented in Figure 2.

Refined air dispersion models require meteorological information to account for local atmospheric conditions. Due to their sensitivity to individual meteorological parameters, such as wind speed and direction, the USEPA recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, meteorological data from the SCAQMD Central Los Angeles monitoring station, which is located approximately 1.66 miles northeast of the Project Site, was used to represent local weather conditions and prevailing winds.

In a manner consistent with SCAQMD AERMOD modeling guidance for the assessment of chronic exposures, maximum concentrations were produced by incorporating all five years of available meteorological data. A copy of the AERMOD dispersion model and BPIP PRIME output files are provided in Attachment C.

Figure 2
Source-Receptor Grid Network



Risk Characterization

Carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Any exposure, therefore, will have some associated risk. As a result, the State of California (Title 22, California Code of Regulations, Sections 12705(b) and 12705(d)) has established a threshold of one in one hundred thousand (1.0E-05) as a level posing no significant risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65). Expressed as 10 in one million (10E-06), this threshold is also consistent with the maximum incremental cancer risk established by the SCAQMD.

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper-bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a 70 year lifetime. The URF and corresponding cancer potency factor for DPM utilized in the assessment was obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*.

A review of available guidance was conducted to determine applicability of the use of early life exposure adjustments to identified carcinogens. For risk assessments conducted under the auspices of The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.) a weighting factor is applied to all carcinogens regardless of purported mechanism of action. Notwithstanding, applicability of AB 2588 is limited to commercial and industrial operations. There are two broad classes of facilities subject to the AB 2588 Program: Core facilities and facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (e.g., auto body shops, gas stations and dry cleaners using perchloroethylene). The stationary source emissions generated from the operation of the Project are not classified as core operations nor subject to industry-wide source evaluation.

Additionally, in comments presented to the SCAQMD Governing Board (Meeting Date: June 5, 2015, Agenda No. 28) relating to toxic air contaminant exposures under Rules 1401, 1401.1, 1402 and 212 revisions, use of the revised OEHHA guidelines and their applicability for projects subject to CEQA as they relate to the incorporation of early-life exposure adjustments, it was reported that:

> The Proposed Amended Rules are separate from the CEQA significance thresholds. The Response to Comments Staff Report PAR 1401, 1401.1, 1402, and 212 A - 8 June 2015 SCAQMD staff is currently evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will evaluate a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board.

To date, the SCAQMD, as a commenting agency, has not conducted public workshops nor developed policy relating to the applicability of applying the revised OEHHA guidance for projects prepared by other public/lead agencies subject to CEQA.

As such, the HRA relied upon USEPA guidance relating to the use of early life exposure adjustment factors (*Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, EPA/630/R-003F), whereby adjustment factors are only considered when carcinogens act “through the mutagenic mode of action.” In 2006, the USEPA published a memorandum that provides guidance regarding the preparation of HRAs should carcinogenic compounds elicit a mutagenic mode of action (USEPA, 2006). As presented in the technical memorandum, numerous compounds were identified as having a mutagenic mode of action. For diesel particulates, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise < 1% of the exhaust particulate mass. To date, the USEPA reports that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action (USEPA, 2018).

In addition, the California Department of Toxic Substances Control (DTSC), which is charged with protecting individuals and the environment from the effects of toxic substances and responsible for assessing, investigating and evaluating sensitive receptor populations to ensure that properties are free of contamination or that health protective remediation levels are achieved has adopted the USEPA's policy in the application of early life exposure adjustments and is consistent with the methodology considered in the assessment of residential exposures.

To quantify dose, the procedure requires the incorporation of several discrete exposure variates. To account for upper bound exposures associated with residential occupancies, lifetime risk values were adjusted to account for an exposure frequency of 365 days per year. Exposure duration estimates assumed that an individual will remain at a given residence for a period of 30 years (i.e., 0.25 years for the third trimester, 2 years for ages 0 to 2 years, 14 years for ages 2 to 16 years and 14 years for ages 16 to 30 years). The 30-year exposure duration represents the high-end residency time utilized by both the USEPA and CalEPA for HRAs evaluating chronic exposures. Point estimates for daily breathing rates representing the 95th percentile of 361, 1090, 745 and 335 L/kg-day for the above referenced age groups were utilized and incorporated into the following dose algorithm.

$$Dose_{air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$$

Where:

$Dose_{air}$	=	*dose through inhalation (mg/kg/day)*
C_{air}	=	*concentration of contaminant in air (µg/m³)*
$\{BR/BW\}$	=	*daily breathing rate normalized to body weight (L/kg body weight/day)*
A	=	*inhalation absorption factor (unitless)*
EF	=	*exposure frequency (days/365 days)*
10^{-6}	=	*micrograms to milligrams conversion*

The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years, 0.72 for ages and 2 to 16 years and 0.73 for ages 16 to 30 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations.

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \times FAH$$

Where:

$Risk_{inh}$	=	*inhalation cancer risk*
$Dose_{air}$	=	*daily inhalation dose (mg/kg/day)*
CPF	=	*inhalation cancer potency factor ($mg/kg/day^{-1}$)*
ED	=	*exposure duration for specified age group (years)*
AT	=	*averaging time (years)*
FAH	=	*fraction of time at home (unitless)*

Tables 2 through 6 present the carcinogenic risk estimates for the maximum exposed residential receptors. Attachment A, Tables A1 through A20, column b identify the predicted DPM concentrations, columns f-h, present the URF, corresponding cancer potency factor and dose estimates for the exposure scenarios considered in the assessment. The cancer risk estimate is presented in column i.

Table 2
Carcinogenic Risk / Maximum Exposed Residential Receptor
825 East 4th Street

Age Group	Risk
Third Trimester	9.7E-10
0 to 2 years	2.3E-08
2 to 16 years	9.5E-08
16 to 30 years	4.3E-08
Total	**1.6E-07**

Note: 1.6E-07 denotes an excess case of cancer of 0.016 in one hundred thousand (100,000) individuals exposed.

Table 3
Carcinogenic Risk / Maximum Exposed Residential Receptor
801 East 4th Place

Age Group	Risk
Third Trimester	3.0E-10
0 to 2 years	7.2E-09
2 to 16 years	2.9E-08
16 to 30 years	1.3E-08
Total	**5.0E-08**

Note: 5.0E-08 denotes an excess case of cancer of 0.005 in one hundred thousand (100,000) individuals exposed.

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	2.4E-09
0 to 2 years	5.8E-08
2 to 9 years	2.3E-07
16 to 30 years	1.1E-07
Total	**4.0E-07**

Note: 4.0E-07 denotes an excess case of cancer of 0.04 in one hundred thousand (100,000) individuals exposed.

Table 5
Carcinogenic Risk / Maximum Exposed Residential Receptor
510 South Hewitt Street

Age Group	Risk
Third Trimester	4.7E-10
0 to 2 years	1.1E-08
2 to 16 years	4.6E-08
16 to 30 years	2.1E-08
Total	**7.9E-08**

Note: 7.9E-08 denotes an excess case of cancer of 0.0079 in one hundred thousand (100,000) individuals exposed.

Table 6
Carcinogenic Risk / Maximum Exposed Residential Receptor
442 Colyton Street

Age Group	Risk
Third Trimester	1.4E-08
0 to 2 years	3.3E-07
2 to 16 years	1.3E-06
16 to 30 years	6.1E-07
Total	**2.3E-06**

Note: 2.3E-06 denotes an excess case of cancer of 0.23 in one hundred thousand (100,000) individuals exposed.

As noted above, the cancer risk for the maximum exposed residential receptor for each occupancy is predicted to be below the significance threshold of one in one hundred thousand (1.0E-05).

An evaluation of the potential noncancer effects of DPM exposure was also conducted. These effects include the exacerbation of chronic heart and lung disease, including asthma and decreased lung function in children. Under the point estimate approach, adverse health effects are evaluated by comparing the pollutant concentration with the appropriate Reference Exposure Level (REL). The chronic REL presented in the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* was considered in the assessment. There are no available acute/8-hour reference exposure levels for DPM.

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). To calculate the hazard index, the pollutant concentration or dose is divided by its toxicity value. Should the total equal or exceed one (i.e., unity), a health hazard is presumed to exist. No exposure frequency or duration adjustments are considered for noncarcinogenic exposures.

Table 7 presents the hazard index values for the identified sensitive receptor locations. Attachment A, Tables A1 through A20, column j, present the REL used in the evaluation of chronic noncarcinogenic exposures. The noncancer hazard index generated from the operation of the emergency generator is presented in column k.

Table 7
Noncarcinogenic Hazards

Receptor	Hazard
825 East 4th Street	1.7E-04
801 East 4th Place	5.2E-05
428 South Hewitt Street	4.2E-04
510 South Hewitt Street	8.2E-05
442 Colyton Street	2.4E-03

Note: 1.7E-04, 5.2E-05, 4.2E-04, 8.2E-05 and 2.4E-03 are commensurate with numeric values of 0.00017, 0.000052, 0.00042, 0.000082 and 0.0024, respectively.

As noted above, the hazard index for the respiratory endpoint totaled less than one for all sensitive receptor occupancies.

Conclusion

Based upon the predicted carcinogenic risk and noncarcinogenic hazard estimates for the identified exposure scenarios, the HRA demonstrates that operation of the Project will not result in unacceptable localized impacts.

I can be reached at (818) 703-3294 should you have any questions or require additional information.

Sincerely,

Bill Piazza

Attachment A:	Carcinogenic Risk/Noncarcinogenic Hazard Calculation Worksheets
Attachment B:	Emission Calculation Worksheet
Attachment C:	Dispersion Model/Building Downwash Output Files
Attachment D:	List of References

ATTACHMENT A

Carcinogenic Risk/Noncarcinogenic Hazard Calculation Worksheets

Table A1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.0E-07	9.7E-10	5.0E+00	1.4E-03	1.7E-04
TOTAL								9.7E-10			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A2
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	9.2E-07	2.3E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								2.3E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A3
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	6.3E-07	9.5E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								9.5E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A4
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.8E-07	4.3E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								4.3E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A5
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	9.4E-08	3.0E-10	5.0E+00	1.4E-03	5.2E-05
TOTAL								3.0E-10			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A6
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.8E-07	7.2E-09	5.0E+00	1.4E-03	5.2E-05
TOTAL								7.2E-09			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A7
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.9E-07	2.9E-08	5.0E+00	1.4E-03	5.2E-05
TOTAL								2.9E-08			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A8
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	8.7E-08	1.3E-08	5.0E+00	1.4E-03	5.2E-05
TOTAL								1.3E-08			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A9
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	7.5E-07	2.4E-09	5.0E+00	1.4E-03	4.2E-04
TOTAL								2.4E-09			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A10
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.3E-06	5.8E-08	5.0E+00	1.4E-03	4.2E-04
TOTAL								5.8E-08			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A11
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.5E-06	2.3E-07	5.0E+00	1.4E-03	4.2E-04
TOTAL								2.3E-07			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A12
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	7.0E-07	1.1E-07	5.0E+00	1.4E-03	4.2E-04
TOTAL								1.1E-07			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A13
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.5E-07	4.7E-10	5.0E+00	1.4E-03	8.2E-05
TOTAL								4.7E-10			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A14
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.5E-07	1.1E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								1.1E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A15
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.1E-07	4.6E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								4.6E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A16
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.4E-07	2.1E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								2.1E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A17
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			$(ug/m^3)^{-1}$	$(mg/kg/day)^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.3E-06	1.4E-08	5.0E+00	1.4E-03	2.4E-03
TOTAL								1.4E-08			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A18
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			$(ug/m^3)^{-1}$	$(mg/kg/day)^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.3E-05	3.3E-07	5.0E+00	1.4E-03	2.4E-03
TOTAL								3.3E-07			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A19
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			$(ug/m^3)^{-1}$	$(mg/kg/day)^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	8.9E-06	1.3E-06	5.0E+00	1.4E-03	2.4E-03
TOTAL								1.3E-06			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A20
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			$(ug/m^3)^{-1}$	$(mg/kg/day)^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.0E-06	6.1E-07	5.0E+00	1.4E-03	2.4E-03
TOTAL								6.1E-07			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

ATTACHMENT B

Emission Calculation Worksheet

Emission Calculation Worksheet

EMERGENCY STANDBY GENERATOR
MTU 16V2000 DS1000

Operation: Diesel Fuel Oil Combustion

Temporal Profile: 0.5479 7 52

Equipment Specifications:

Equipment Used (#)	1.0
Operational Time (hrs)	200
Average Rated Horsepower	1839
PM10 Emission Factor (g/bhp-hr)	0.15
Load Factor (% / 100)	1.0

Emissions: 0.07663 g/sec

g/sec = ((equipment used) x (operational hours) x (average rated horsepower) x (PM10 emission factor) x (load factor))/(operational hrs/3600 seconds/hr)

ATTACHMENT C

Dispersion Model/Building Downwash Output Files

```
**BEE-Line Software:  (Version 12.09) data input file
**  Model: AERMOD.EXE     Input File Creation Date: 9/15/2022  Time: 1:02:41 PM
NO ECHO


   *** Message Summary For AERMOD Model Setup ***

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

 A Total of           0 Fatal Error Message(s)
 A Total of           3 Warning Message(s)
 A Total of           0 Informational Message(s)


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



    ********   WARNING MESSAGES   ********
 SO W320      20       PPARM: Input Parameter May Be Out-of-Range for Parameter           VS
 ME W186     195       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     195       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                            ***        09/15/22
 *** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                 ***        13:02:45
                                                                                                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT 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 URBAN Dispersion Algorithm for the SBL for     1 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   9818605.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Accepts FLAGPOLE Receptor . Heights.
      * The User Specified a Pollutant Type of: OTHER

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     128 Receptor(s)

                with:      1 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      0 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:  16216

**Output Options Selected:
         Model Outputs Tables of ANNUAL 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) =    87.00 ;  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:          F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.DTA
**Output Print File:             F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.LST

**File for Summary of Results:   F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.SUM

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                              ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                   ***        13:02:45
                                                                                                                     PAGE   2
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                                 *** POINT SOURCE DATA ***
```

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
GEN_SET	0	0.76630E-01	385947.0	3767623.0	79.0	88.53	778.15	61.67	0.30	YES	YES	NO	HROFDY

```
*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                              ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                   ***        13:02:45
                                                                                                                     PAGE   3
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                             SOURCE IDs
-----------                                             ----------


 ALL        GEN_SET     ,

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                              ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                   ***        13:02:45
                                                                                                                     PAGE   4
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                         *** SOURCE IDs DEFINED AS URBAN SOURCES ***

 URBAN ID   URBAN POP                                   SOURCE IDs
 --------   ---------                                   ----------


             9818605.   GEN_SET     ,

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                              ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                   ***        13:02:45
                                                                                                                     PAGE   5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*

                                         *** DIRECTION SPECIFIC BUILDING DIMENSIONS ***
```

SOURCE ID: GEN_SET

IFV	BH	BW	BL	XADJ	YADJ	IFV	BH	BW	BL	XADJ	YADJ
1	83.5,	55.9,	75.8,	-30.1,	2.3,	2	83.5,	64.5,	77.3,	-31.4,	3.6,
3	83.5,	71.1,	76.4,	-31.7,	4.8,	4	83.5,	75.6,	73.2,	-31.0,	5.9,
5	83.5,	77.7,	67.7,	-29.3,	6.8,	6	83.5,	77.5,	60.2,	-26.8,	7.5,
7	83.5,	75.0,	50.9,	-23.5,	7.9,	8	83.5,	70.2,	40.0,	-19.4,	8.1,
9	83.5,	72.1,	45.6,	-23.7,	8.1,	10	83.5,	75.8,	55.9,	-30.2,	7.8,
11	83.5,	77.3,	64.5,	-35.8,	7.3,	12	83.5,	76.4,	71.1,	-40.4,	6.5,
13	83.5,	73.2,	75.6,	-43.7,	5.6,	14	83.5,	67.7,	77.7,	-45.6,	4.5,
15	83.5,	60.2,	77.5,	-46.2,	3.3,	16	83.5,	50.9,	75.0,	-45.4,	1.9,
17	83.5,	40.0,	70.2,	-43.2,	0.6,	18	83.5,	45.6,	72.1,	-44.1,	-0.9,
19	83.5,	55.9,	75.8,	-45.7,	-2.3,	20	83.5,	64.5,	77.3,	-45.9,	-3.6,
21	83.5,	71.1,	76.4,	-44.7,	-4.8,	22	83.5,	75.6,	73.2,	-42.2,	-5.9,
23	83.5,	77.7,	67.7,	-38.4,	-6.8,	24	83.5,	77.5,	60.2,	-33.4,	-7.5,
25	83.5,	75.0,	50.9,	-27.4,	-7.9,	26	83.5,	70.2,	40.0,	-20.6,	-8.1,
27	83.5,	72.1,	45.6,	-21.9,	-8.1,	28	83.5,	75.8,	55.9,	-25.7,	-7.8,
29	83.5,	77.3,	64.5,	-28.6,	-7.3,	30	83.5,	76.4,	71.1,	-30.7,	-6.5,
31	83.5,	73.2,	75.6,	-31.9,	-5.6,	32	83.5,	67.7,	77.7,	-32.1,	-4.5,
33	83.5,	60.2,	77.5,	-31.3,	-3.3,	34	83.5,	50.9,	75.0,	-29.6,	-1.9,
35	83.5,	40.0,	70.2,	-26.9,	-0.6,	36	83.5,	45.6,	72.1,	-28.0,	0.9,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

SOURCE ID = GEN_SET ; SOURCE TYPE = POINT :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.54790E+00	6	.00000E+00
7	.00000E+00	8	.00000E+00	9	.00000E+00	10	.00000E+00	11	.00000E+00	12	.00000E+00
13	.00000E+00	14	.00000E+00	15	.00000E+00	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 385780.1, 3767681.8,      79.0,      79.0,       2.0);       ( 385790.2, 3767682.5,      79.0,      79.0,       2.0);
( 385800.5, 3767683.4,      79.0,      79.0,       2.0);       ( 385810.8, 3767684.3,      79.0,      79.0,       2.0);
( 385780.4, 3767674.1,      79.0,      79.0,       2.0);       ( 385790.0, 3767674.8,      79.0,      79.0,       2.0);
( 385800.1, 3767676.2,      79.0,      79.0,       2.0);       ( 385810.2, 3767677.0,      79.0,      79.0,       2.0);
( 385769.7, 3767688.7,      79.0,      79.0,       2.0);       ( 385779.7, 3767689.3,      79.0,      79.0,       2.0);
( 385790.2, 3767690.2,      79.0,      79.0,       2.0);       ( 385800.9, 3767691.1,      79.0,      79.0,       2.0);
( 385811.2, 3767692.1,      79.0,      79.0,       2.0);       ( 385821.2, 3767692.8,      79.0,      79.0,       2.0);
( 385820.4, 3767685.5,      79.0,      79.0,       2.0);       ( 385819.7, 3767677.6,      79.0,      79.0,       2.0);
( 385818.9, 3767671.1,      79.0,      79.0,       2.0);       ( 385809.9, 3767670.5,      79.0,      79.0,       2.0);
( 385799.8, 3767669.4,      79.0,      79.0,       2.0);       ( 385790.0, 3767668.4,      79.0,      79.0,       2.0);
( 385780.4, 3767667.5,      79.0,      79.0,       2.0);       ( 385771.7, 3767666.3,      79.0,      79.0,       2.0);
( 385771.1, 3767673.6,      79.0,      79.0,       2.0);       ( 385770.5, 3767681.5,      79.0,      79.0,       2.0);
( 385884.9, 3767807.8,      79.0,      79.0,       2.0);       ( 385879.4, 3767800.6,      79.0,      79.0,       2.0);
( 385874.0, 3767793.7,      79.0,      79.0,       2.0);       ( 385892.0, 3767802.7,      79.0,      79.0,       2.0);
( 385886.6, 3767795.6,      79.0,      79.0,       2.0);       ( 385881.1, 3767788.8,      79.0,      79.0,       2.0);
( 385899.7, 3767797.6,      79.0,      79.0,       2.0);       ( 385894.3, 3767790.5,      79.0,      79.0,       2.0);
( 385888.6, 3767783.2,      79.0,      79.0,       2.0);       ( 385883.0, 3767820.0,      79.0,      79.0,       2.0);
( 385890.2, 3767814.9,      79.0,      79.0,       2.0);       ( 385897.4, 3767809.7,      79.0,      79.0,       2.0);
( 385904.6, 3767804.6,      79.0,      79.0,       2.0);       ( 385911.8, 3767799.4,      79.0,      79.0,       2.0);
( 385906.5, 3767792.4,      79.0,      79.0,       2.0);       ( 385901.2, 3767785.3,      79.0,      79.0,       2.0);
( 385895.9, 3767778.3,      79.0,      79.0,       2.0);       ( 385890.6, 3767771.2,      79.0,      79.0,       2.0);
( 385883.7, 3767776.4,      79.0,      79.0,       2.0);       ( 385876.3, 3767781.6,      79.0,      79.0,       2.0);
( 385869.2, 3767786.8,      79.0,      79.0,       2.0);       ( 385862.0, 3767792.0,      79.0,      79.0,       2.0);
( 385867.3, 3767799.0,      79.0,      79.0,       2.0);       ( 385872.5, 3767806.0,      79.0,      79.0,       2.0);
( 385877.8, 3767813.0,      79.0,      79.0,       2.0);       ( 386001.4, 3767582.7,      79.0,      79.0,       6.1);
```

```
( 385989.7, 3767588.0,      79.0,      79.0,       6.1);       ( 385998.0, 3767587.0,      79.0,      79.0,       6.1);
( 386006.3, 3767586.0,      79.0,      79.0,       6.1);       ( 386014.0, 3767585.0,      79.0,      79.0,       6.1);
( 386013.0, 3767580.0,      79.0,      79.0,       6.1);       ( 386005.8, 3767579.2,      79.0,      79.0,       6.1);
( 385998.5, 3767578.4,      79.0,      79.0,       6.1);       ( 385991.5, 3767577.7,      79.0,      79.0,       6.1);
( 385990.7, 3767582.9,      79.0,      79.0,       6.1);       ( 386015.2, 3767473.5,      79.0,      79.0,       2.0);
( 386016.7, 3767463.2,      79.0,      79.0,       2.0);       ( 386018.2, 3767453.8,      79.0,      79.0,       2.0);
( 386019.5, 3767443.9,      79.0,      79.0,       2.0);       ( 386020.6, 3767434.1,      79.0,      79.0,       2.0);
( 386021.9, 3767424.7,      79.0,      79.0,       2.0);       ( 386023.0, 3767414.4,      79.0,      79.0,       2.0);
( 386024.5, 3767405.0,      79.0,      79.0,       2.0);       ( 386024.5, 3767475.0,      79.0,      79.0,       2.0);
( 386026.0, 3767464.5,      79.0,      79.0,       2.0);       ( 386027.4, 3767454.9,      79.0,      79.0,       2.0);
( 386028.7, 3767445.0,      79.0,      79.0,       2.0);       ( 386030.0, 3767435.6,      79.0,      79.0,       2.0);
( 386031.3, 3767425.9,      79.0,      79.0,       2.0);       ( 386032.6, 3767415.5,      79.0,      79.0,       2.0);
( 386033.7, 3767406.1,      79.0,      79.0,       2.0);       ( 386034.3, 3767476.2,      79.0,      79.0,       2.0);
( 386035.6, 3767465.5,      79.0,      79.0,       2.0);       ( 386036.7, 3767456.1,      79.0,      79.0,       2.0);
( 386038.2, 3767446.3,      79.0,      79.0,       2.0);       ( 386039.6, 3767436.6,      79.0,      79.0,       2.0);
( 386040.9, 3767426.8,      79.0,      79.0,       2.0);       ( 386042.2, 3767416.7,      79.0,      79.0,       2.0);
( 386043.5, 3767407.5,      79.0,      79.0,       2.0);       ( 386005.0, 3767482.0,      79.0,      79.0,       2.0);
( 386014.1, 3767483.3,      79.0,      79.0,       2.0);       ( 386023.5, 3767484.6,      79.0,      79.0,       2.0);
( 386033.2, 3767486.1,      79.0,      79.0,       2.0);       ( 386042.0, 3767487.0,      79.0,      79.0,       2.0);
( 386043.4, 3767477.2,      79.0,      79.0,       2.0);       ( 386044.7, 3767467.4,      79.0,      79.0,       2.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 386046.1, 3767457.6,      79.0,      79.0,       2.0);       ( 386047.4, 3767447.8,      79.0,      79.0,       2.0);
( 386048.8, 3767438.1,      79.0,      79.0,       2.0);       ( 386050.1, 3767428.3,      79.0,      79.0,       2.0);
( 386051.5, 3767418.5,      79.0,      79.0,       2.0);       ( 386052.8, 3767408.7,      79.0,      79.0,       2.0);
( 386054.2, 3767398.9,      79.0,      79.0,       2.0);       ( 386044.9, 3767397.7,      79.0,      79.0,       2.0);
( 386035.6, 3767396.5,      79.0,      79.0,       2.0);       ( 386026.3, 3767395.3,      79.0,      79.0,       2.0);
( 386017.0, 3767394.1,      79.0,      79.0,       2.0);       ( 386015.7, 3767403.9,      79.0,      79.0,       2.0);
( 386014.3, 3767413.6,      79.0,      79.0,       2.0);       ( 386013.0, 3767423.4,      79.0,      79.0,       2.0);
( 386011.7, 3767433.2,      79.0,      79.0,       2.0);       ( 386010.3, 3767442.9,      79.0,      79.0,       2.0);
( 386009.0, 3767452.7,      79.0,      79.0,       2.0);       ( 386007.7, 3767462.5,      79.0,      79.0,       2.0);
( 386006.3, 3767472.2,      79.0,      79.0,       2.0);       ( 386005.0, 3767482.0,      79.0,      79.0,       2.0);
( 385899.9, 3767516.3,      79.0,      79.0,       2.0);       ( 385909.3, 3767517.4,      79.0,      79.0,       2.0);
( 385918.6, 3767518.7,      79.0,      79.0,       2.0);       ( 385927.8, 3767520.1,      79.0,      79.0,       2.0);
( 385937.4, 3767521.2,      79.0,      79.0,       2.0);       ( 385889.8, 3767523.5,      79.0,      79.0,       2.0);
( 385899.1, 3767524.8,      79.0,      79.0,       2.0);       ( 385908.4, 3767526.0,      79.0,      79.0,       2.0);
( 385917.7, 3767527.3,      79.0,      79.0,       2.0);       ( 385926.9, 3767528.5,      79.0,      79.0,       2.0);
( 385936.1, 3767529.8,      79.0,      79.0,       2.0);       ( 385938.6, 3767513.1,      79.0,      79.0,       2.0);
( 385929.3, 3767511.8,      79.0,      79.0,       2.0);       ( 385920.0, 3767510.6,      79.0,      79.0,       2.0);
( 385910.6, 3767509.3,      79.0,      79.0,       2.0);       ( 385901.3, 3767508.1,      79.0,      79.0,       2.0);
( 385892.0, 3767506.8,      79.0,      79.0,       2.0);       ( 385890.9, 3767515.2,      79.0,      79.0,       2.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: F:\WD Passport\4th and Hewitt\metdata\CELA_v9.SFC   Met Version: 16216
Profile file: F:\WD Passport\4th and Hewitt\metdata\CELA_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.:   99999   Upper air station no.:   3190
Name: UNKNOWN   Name: UNKNOWN
Year: 2010   Year: 2010

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
10	01	01	1	01	-33.0	0.331	-9.000	-9.000	-999.	456.	120.2	0.56	0.86	1.00	3.10	38.	21.3	284.9	17.7
10	01	01	1	02	-26.9	0.285	-9.000	-9.000	-999.	367.	89.6	0.56	0.86	1.00	2.70	38.	21.3	284.2	17.7
10	01	01	1	03	-38.6	0.387	-9.000	-9.000	-999.	577.	164.6	0.56	0.86	1.00	3.60	35.	21.3	284.2	17.7
10	01	01	1	04	-33.0	0.331	-9.000	-9.000	-999.	458.	120.2	0.56	0.86	1.00	3.10	34.	21.3	283.8	17.7
10	01	01	1	05	-33.1	0.331	-9.000	-9.000	-999.	456.	120.2	0.56	0.86	1.00	3.10	37.	21.3	283.1	17.7
10	01	01	1	06	-38.7	0.387	-9.000	-9.000	-999.	577.	164.5	0.56	0.86	1.00	3.60	24.	21.3	283.1	17.7
10	01	01	1	07	-38.6	0.387	-9.000	-9.000	-999.	577.	164.5	0.56	0.86	1.00	3.60	35.	21.3	283.8	17.7
10	01	01	1	08	-29.6	0.435	-9.000	-9.000	-999.	688.	251.8	0.56	0.86	0.55	4.00	35.	21.3	283.8	17.7
10	01	01	1	09	30.0	0.426	0.367	0.008	59.	666.	-232.0	0.56	0.86	0.32	3.60	38.	21.3	286.4	17.7
10	01	01	1	10	72.3	0.359	0.629	0.008	124.	519.	-57.8	0.56	0.86	0.24	2.70	34.	21.3	290.4	17.7
10	01	01	1	11	104.4	0.321	0.998	0.008	344.	437.	-28.6	0.56	0.86	0.21	2.20	43.	21.3	292.5	17.7
10	01	01	1	12	115.1	0.283	1.156	0.008	484.	363.	-17.9	0.56	0.86	0.20	1.80	62.	21.3	295.9	17.7
10	01	01	1	13	91.4	0.406	1.130	0.008	568.	622.	-66.2	0.56	0.86	0.20	3.10	263.	21.3	294.2	17.7
10	01	01	1	14	89.3	0.316	1.168	0.008	642.	432.	-31.9	0.56	0.86	0.21	2.20	259.	21.3	294.9	17.7
10	01	01	1	15	42.6	0.295	0.928	0.008	675.	384.	-54.0	0.56	0.86	0.25	2.20	267.	21.3	294.9	17.7
10	01	01	1	16	12.0	0.359	0.609	0.008	680.	516.	-347.9	0.56	0.86	0.33	3.10	264.	21.3	292.5	17.7
10	01	01	1	17	-15.7	0.231	-9.000	-9.000	-999.	276.	70.7	0.56	0.86	0.60	2.20	288.	21.3	290.9	17.7
10	01	01	1	18	-6.1	0.135	-9.000	-9.000	-999.	124.	36.7	0.56	0.86	1.00	1.30	344.	21.3	289.2	17.7
10	01	01	1	19	-11.4	0.184	-9.000	-9.000	-999.	190.	49.2	0.56	0.86	1.00	1.80	2.	21.3	288.8	17.7
10	01	01	1	20	-17.4	0.229	-9.000	-9.000	-999.	263.	62.1	0.56	0.86	1.00	2.20	22.	21.3	288.1	17.7
10	01	01	1	21	-17.4	0.229	-9.000	-9.000	-999.	263.	61.9	0.56	0.86	1.00	2.20	40.	21.3	287.0	17.7
10	01	01	1	22	-11.5	0.184	-9.000	-9.000	-999.	190.	49.1	0.56	0.86	1.00	1.80	306.	21.3	287.0	17.7
10	01	01	1	23	-11.5	0.184	-9.000	-9.000	-999.	190.	49.0	0.56	0.86	1.00	1.80	45.	21.3	286.4	17.7
10	01	01	1	24	-11.5	0.184	-9.000	-9.000	-999.	190.	49.0	0.56	0.86	1.00	1.80	67.	21.3	286.4	17.7

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	17.7	0	-999.	-99.00	284.9	99.0	-99.00	-99.00
10	01	01	01	21.3	1	38.	3.10	-999.0	99.0	-99.00	-99.00

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

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   GEN_SET   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
385780.10	3767681.80	0.00036	385790.20	3767682.50	0.00041
385800.50	3767683.40	0.00047	385810.80	3767684.30	0.00051
385780.40	3767674.10	0.00043	385790.00	3767674.80	0.00050
385800.10	3767676.20	0.00057	385810.20	3767677.00	0.00064

385769.70	3767688.70	0.00032	385779.70	3767689.30	0.00032
385790.20	3767690.20	0.00034	385800.90	3767691.10	0.00037
385811.20	3767692.10	0.00040	385821.20	3767692.80	0.00044
385820.40	3767685.50	0.00055	385819.70	3767677.60	0.00069
385818.90	3767671.10	0.00084	385809.90	3767670.50	0.00077
385799.80	3767669.40	0.00068	385790.00	3767668.40	0.00059
385780.40	3767667.50	0.00050	385771.70	3767666.30	0.00048
385771.10	3767673.60	0.00042	385770.50	3767681.50	0.00036
385884.90	3767807.80	0.00013	385879.40	3767800.60	0.00013
385874.00	3767793.70	0.00015	385892.00	3767802.70	0.00014
385886.60	3767795.60	0.00013	385881.10	3767788.80	0.00015
385899.70	3767797.60	0.00015	385894.30	3767790.50	0.00015
385888.60	3767783.20	0.00015	385883.00	3767820.00	0.00011
385890.20	3767814.90	0.00012	385897.40	3767809.70	0.00014
385904.60	3767804.60	0.00018	385911.80	3767799.40	0.00026
385906.50	3767792.40	0.00021	385901.20	3767785.30	0.00017
385895.90	3767778.30	0.00017	385890.60	3767771.20	0.00016
385883.70	3767776.40	0.00015	385876.30	3767781.60	0.00016
385869.20	3767786.80	0.00015	385862.00	3767792.00	0.00015
385867.30	3767799.00	0.00015	385872.50	3767806.00	0.00014
385877.80	3767813.00	0.00012	386001.40	3767582.70	0.00163
385989.70	3767588.00	0.00208	385998.00	3767587.00	0.00178
386006.30	3767586.00	0.00163	386014.00	3767585.00	0.00151
386013.00	3767580.00	0.00144	386005.80	3767579.20	0.00150
385998.50	3767578.40	0.00158	385991.50	3767577.70	0.00167
385990.70	3767582.90	0.00181	386015.20	3767473.50	0.00039
386016.70	3767463.20	0.00037	386018.20	3767453.80	0.00036
386019.50	3767443.90	0.00034	386020.60	3767434.10	0.00033
386021.90	3767424.70	0.00031	386023.00	3767414.40	0.00030
386024.50	3767405.00	0.00029	386024.50	3767475.00	0.00039
386026.00	3767464.50	0.00038	386027.40	3767454.90	0.00036
386028.70	3767445.00	0.00035	386030.00	3767435.60	0.00034
386031.30	3767425.90	0.00033	386032.60	3767415.50	0.00031
386033.70	3767406.10	0.00030	386034.30	3767476.20	0.00039
386035.60	3767465.50	0.00038	386036.70	3767456.10	0.00036
386038.20	3767446.30	0.00034	386039.60	3767436.60	0.00034

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): GEN_SET ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
386040.90	3767426.80	0.00033	386042.20	3767416.70	0.00032
386043.50	3767407.50	0.00031	386005.00	3767482.00	0.00040
386014.10	3767483.30	0.00041	386023.50	3767484.60	0.00041
386033.20	3767486.10	0.00040	386042.00	3767487.00	0.00038
386043.40	3767477.20	0.00038	386044.70	3767467.40	0.00037
386046.10	3767457.60	0.00036	386047.40	3767447.80	0.00034
386048.80	3767438.10	0.00033	386050.10	3767428.30	0.00032
386051.50	3767418.50	0.00032	386052.80	3767408.70	0.00031
386054.20	3767398.90	0.00030	386044.90	3767397.70	0.00030
386035.60	3767396.50	0.00030	386026.30	3767395.30	0.00028
386017.00	3767394.10	0.00026	386015.70	3767403.90	0.00027
386014.30	3767413.60	0.00029	386013.00	3767423.40	0.00030
386011.70	3767433.20	0.00032	386010.30	3767442.90	0.00033
386009.00	3767452.70	0.00035	386007.70	3767462.50	0.00037
386006.30	3767472.20	0.00039	386005.00	3767482.00	0.00040
385899.90	3767516.30	0.00956	385909.30	3767517.40	0.00813
385918.60	3767518.70	0.00664	385927.80	3767520.10	0.00519
385937.40	3767521.20	0.00372	385889.80	3767523.50	0.01189
385899.10	3767524.80	0.01092	385908.40	3767526.00	0.00958
385917.70	3767527.30	0.00806	385926.90	3767528.50	0.00646
385936.10	3767529.80	0.00493	385938.60	3767513.10	0.00275
385929.30	3767511.80	0.00390	385920.00	3767510.60	0.00523

```
        385910.60    3767509.30        0.00661                        385901.30    3767508.10        0.00791
        385892.00    3767506.80        0.00873                        385890.90    3767515.20        0.01060
```


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***

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

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.01189 AT	(385889.80, 3767523.50, 79.00, 79.00, 2.00)	DC	
	2ND HIGHEST VALUE IS	0.01092 AT	(385899.10, 3767524.80, 79.00, 79.00, 2.00)	DC	
	3RD HIGHEST VALUE IS	0.01060 AT	(385890.90, 3767515.20, 79.00, 79.00, 2.00)	DC	
	4TH HIGHEST VALUE IS	0.00958 AT	(385908.40, 3767526.00, 79.00, 79.00, 2.00)	DC	
	5TH HIGHEST VALUE IS	0.00956 AT	(385899.90, 3767516.30, 79.00, 79.00, 2.00)	DC	
	6TH HIGHEST VALUE IS	0.00873 AT	(385892.00, 3767506.80, 79.00, 79.00, 2.00)	DC	
	7TH HIGHEST VALUE IS	0.00813 AT	(385909.30, 3767517.40, 79.00, 79.00, 2.00)	DC	
	8TH HIGHEST VALUE IS	0.00806 AT	(385917.70, 3767527.30, 79.00, 79.00, 2.00)	DC	
	9TH HIGHEST VALUE IS	0.00791 AT	(385901.30, 3767508.10, 79.00, 79.00, 2.00)	DC	
	10TH HIGHEST VALUE IS	0.00664 AT	(385918.60, 3767518.70, 79.00, 79.00, 2.00)	DC	

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


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

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

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

 A Total of           0 Fatal Error Message(s)
 A Total of           5 Warning Message(s)
 A Total of         808 Informational Message(s)

 A Total of       43824 Hours Were Processed

 A Total of           4 Calm Hours Identified

 A Total of         804 Missing Hours Identified (  1.83 Percent)


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


    ********   WARNING MESSAGES   ********
 SO W320      20       PPARM: Input Parameter May Be Out-of-Range for Parameter           VS
 ME W186     195       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used         0.50
 ME W187     195       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:      14010101
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:    2 year gap

    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

```
F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

                             BPIP (Dated: 04274)
 DATE :  8/28/2022
 TIME : 17:25: 2
 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

 ============================
 BPIP PROCESSING INFORMATION:
 ============================

   The P  flag has been set for preparing downwash related data
          for a model run utilizing the PRIME algorithm.

   Inputs entered in METERS     will be converted to meters using
    a conversion factor of    1.0000.  Output will be in meters.

   The UTMP variable is set to UTMY.  The input is assumed to be in
     UTM coordinates.  BPIP will move the UTM origin to the first pair of
     UTM coordinates read.  The UTM coordinates of the new origin will
     be subtracted from all the other UTM coordinates entered to form
     this new local coordinate system.

   Plant north is set to   0.00 degrees with respect to True North.

 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

              PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
                       (Output Units: meters)

                                  Stack-Building             Preliminary*
         Stack        Stack     Base Elevation    GEP**   GEP Stack
         Name         Height    Differences       EQN1    Height Value

        GEN_SET        88.53         0.00       200.41       200.41

   * Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP
     Technical Support Document.  Determinant 3 may be investigated for
     additional stack height credit.  Final values result after
     Determinant 3 has been taken into consideration.
  ** Results were derived from Equation 1 on page 6 of GEP Technical
     Support Document.  Values have been adjusted for any stack-building
     base elevation differences.

     Note:  Criteria for determining stack heights for modeling emission
     limitations for a source can be found in Table 3.1 of the
     GEP Technical Support Document.

                             BPIP (Dated: 04274)
 DATE :  8/28/2022
 TIME : 17:25: 2

 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28
  BPIP output is in meters

     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
```

SO	BUILDHGT	GEN_SET	83.52	83.52	83.52	83.52	83.52	83.52
SO	BUILDWID	GEN_SET	55.88	64.47	71.09	75.56	77.73	77.53
SO	BUILDWID	GEN_SET	74.98	70.16	72.10	75.85	77.29	76.39
SO	BUILDWID	GEN_SET	73.17	67.72	60.21	50.88	40.00	45.60
SO	BUILDWID	GEN_SET	55.88	64.47	71.09	75.56	77.73	77.53
SO	BUILDWID	GEN_SET	74.98	70.16	72.10	75.85	77.29	76.39
SO	BUILDWID	GEN_SET	73.17	67.72	60.21	50.88	40.00	45.60
SO	BUILDLEN	GEN_SET	75.85	77.29	76.39	73.17	67.72	60.21
SO	BUILDLEN	GEN_SET	50.88	40.00	45.60	55.88	64.47	71.09
SO	BUILDLEN	GEN_SET	75.56	77.73	77.53	74.98	70.16	72.10
SO	BUILDLEN	GEN_SET	75.85	77.29	76.39	73.17	67.72	60.21
SO	BUILDLEN	GEN_SET	50.88	40.00	45.60	55.88	64.47	71.09
SO	BUILDLEN	GEN_SET	75.56	77.73	77.53	74.98	70.16	72.10
SO	XBADJ	GEN_SET	-30.14	-31.37	-31.65	-30.96	-29.34	-26.82
SO	XBADJ	GEN_SET	-23.48	-19.44	-23.70	-30.23	-35.85	-40.37
SO	XBADJ	GEN_SET	-43.67	-45.65	-46.23	-45.41	-43.21	-44.10
SO	XBADJ	GEN_SET	-45.70	-45.92	-44.74	-42.20	-38.38	-33.39
SO	XBADJ	GEN_SET	-27.39	-20.56	-21.90	-25.65	-28.62	-30.72
SO	XBADJ	GEN_SET	-31.88	-32.08	-31.30	-29.57	-26.95	-28.00
SO	YBADJ	GEN_SET	2.29	3.62	4.83	5.90	6.78	7.46
SO	YBADJ	GEN_SET	7.92	8.13	8.05	7.78	7.27	6.55
SO	YBADJ	GEN_SET	5.62	4.52	3.29	1.95	0.56	-0.90
SO	YBADJ	GEN_SET	-2.29	-3.62	-4.83	-5.90	-6.78	-7.46
SO	YBADJ	GEN_SET	-7.92	-8.13	-8.05	-7.78	-7.27	-6.55
SO	YBADJ	GEN_SET	-5.62	-4.52	-3.29	-1.95	-0.56	0.90

ATTACHMENT D

List of References

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22. South Coast Air Quality Management District, 2022. Modeling Guidance for AERMOD. Website: www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance#MetData.

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25. United States Environmental Protection Agency, Office of Air Quality Planning and Standards, 1995. *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition. AP-42.

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MEMORANDUM

Date: September 22, 2023

To: Kathleen King, City Planner
City of Los Angeles, Department of City Planning

From: Johanna Falzarano, Senior Project Manager
Envicom Corporation

Subject: 4th and Hewitt Project Environmental Impact Report – Responses to Justification/Reason for Appeal from the Supporters Alliance for Environmental Responsibility (SAFER)

On August 16, 2023, an Advisory Agency public hearing was held for the 4th and Hewitt Project's (Project's) Vesting Tentative Tract Map (VTT-74745) and Final Environmental Impact Report (EIR) and a Hearing Officer public hearing for the Project's entitlements (CPC-2017-469-GPA-VZCHD-MCUP-SPR). Marjan Abubo of Lozeau Drury LLP, representing Supporters Alliance for Environmental Responsibility (SAFER) (collectively, Appellant), submitted a comment letter dated August 15, 2023, which raised comments regarding air quality and greenhouse gas (GHG) emission, indoor air quality, health risk, and biological resource impacts. Responses to these comments were provided by Envicom Corporation and Air Quality Dynamics on August 30, 2023 (Attachment A).

The Advisory Agency issued the letter of determination to certify the EIR (including the adoption of its Findings, Statement of Overriding Considerations, and Mitigation Monitoring Program) and approve the VTT-74745 on September 1, 2023. SAFER filed an appeal against the Advisory Agency's approval of VTT-74745 and certification of EIR (ENV-2017-470-EIR) on September 11, 2023 (Attachment B). As in their August 16, 2023 letter, SAFER asserts that 1) the EIR fails to adequately analyze the Project's impacts including, but not limited to air quality, health, GHGs, and biological resource impacts; and 2) the Project fails to include a statement of overriding considerations that the Project's economic benefits outweigh its environmental costs. In the September 11, 2023 appeal letter, SAFER provides additional comments, asserting that 1) the Project does not comply with the City of Los Angeles (City) zoning code, and that 2) the members of SAFER breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

As demonstrated by the responses provided by Envicom Corporation and Air Quality Dynamics on August 30, 2023 (Attachment A), SAFER's comments related to air quality, health, GHGs, and biological resources have already been addressed in the Initial Study (IS), dated September 2017; in the Draft EIR, dated May 2022; or in the Final EIR, dated July 2023. Furthermore, the California Environmental Quality Act (CEQA) does not require an economic analysis as part of the statement of overriding considerations demonstrating that the economic benefits of the Project outweigh the environmental costs. In accordance with Section 21081 of the Public Resources Code and the CEQA Guidelines, Sections 15092 and 15093, the City, as Lead Agency, must adopt a formal statement of overriding considerations, as required by CEQA, to demonstrate that the benefits of the Project outweigh the significant unavoidable adverse environmental effects. To do so, the City is required to balance, as applicable, not only the economic benefits, but also the legal, social, technological, and other relevant benefits of the Project against its significant unavoidable environmental impacts when determining whether to approve the Project. As detailed in the responses to SAFER comments provided by Envicom Corporation and Air Quality Dynamics on August 30, 2023 (Attachment A), the overriding considerations are fully analyzed in the EIR, and each consideration separately and independently (i) outweighs the adverse environmental impacts of the Project and (ii) justifies adoption of the Project and certification of the completed EIR. Therefore, the Draft EIR and Final EIR provide the City with substantial evidence on the environmental impacts of the Project to support the statement of overriding considerations provided in the CEQA Findings contained in the Department of City Planning's Staff Report.[1] The responses contained in Attachment A are incorporated herein in full.

With regard to the additional comments provided by SAFER within the September 11, 2023 appeal letter asserting that 1) the Project does not comply with the City zoning code, and that 2) the members of SAFER breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated, the following responses are provided.

Topic 1. Zoning Compliance.

SAFER asserts that the Project does not comply with the City zoning code (City of Los Angeles Municipal Code [LAMC], Chapter 1, Article 2, Section 12). As described in the Draft EIR, Chapter II, Project Description, and Section IV.H, Land Use and Planning, as well as in Response to Comment No. 5-12 of Chapter II, Responses to Comments, of the Final EIR, the Project includes the following entitlements, which are subject to the City's discretionary approval: a change of the Project Site land use designation from Heavy Industrial to Regional Center Commercial, from the Manufacturing M3 Zone to the Commercial C2 Zone, and from Height District No. 1 to Height District No. 2 (refer to Chapter II, Project Description [pages II-34 and II-35], and Section IV.H, Land Use and Planning [pages IV.H-18, 21, 28, 29, and 32] of the Draft EIR). As further evaluated in the Draft EIR, Section IV.H, Land Use and Planning (pages IV.H-16 through IV.H-33), and Appendix I, Land Use Policy Consistency Tables, of the Draft EIR, the Project, as proposed with these requested entitlements, would not be in conflict with the requirements and policies of the Southern California Association of Governments' 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the City General Plan (and applicable elements, including the Framework Element, Mobility Plan, Central City North Community Plan, and Plan for a Healthy Los Angeles), the LAMC, the Citywide Design Guidelines, and the River Improvement Overlay District, that were specifically adopted for the purpose of avoiding or mitigating an environmental effect. As conveyed in the Draft EIR analysis, Project impacts related to land use

[1] Department of City Planning, Planning Department Staff Report, Vesting Tentative Tract Map No. 74745, Available at: https://planning.lacity.org/plndoc/Staff_Reports/2023/08-14-2023/VTT_74745.pdf, Accessed on August 22, 2023.

and planning would be less than significant, and the Appellant has provided no substantial evidence to the contrary.

Topic 2. Air Quality, Traffic, and Other Environmental Impacts.

SAFER also asserts that its members breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated. The Project's construction period and operations air quality (and health risk) impacts were evaluated in the Draft EIR and Final EIR, and the less-than-significant impact findings are supported by substantial evidence and remain less than significant, as already disclosed by Envicom Corporation and Air Quality Dynamics on August 30, 2023 (Attachment A). Nevertheless, additional information is provided here to more specifically respond to the Appellant's August 15, 2023 comments related to the reported Project air quality and GHG emissions generated by the California Emissions Estimator Model (CalEEMod).

The Appellant asserts that changes to the model's construction phasing, grading, and solid waste values were unsubstantiated and resulted in incorrect air quality and GHG emissions estimates. However, as described by Envicom Corporation and Air Quality Dynamics on August 30, 2023 (Attachment A), the construction equipment types and number of equipment pieces, construction phasing, earthwork, and construction dates are based on information provided by the Applicant team. CalEEMod automatically adjusts these values as Project-specific data is entered. The Project's construction years were updated and were accounted for in the Final EIR, as the construction schedule was updated from 2021-2023 in the Draft EIR, to 2022-2025 in the Final EIR. However, the Project's assumptions for each construction phase were not revised; the Project would entail 25 days of demolition, 70 days of site preparation and grading, 547 days of construction, and 70 days of paving and architectural coating. Regarding grading, CalEEMod adjusted the graded acreage based on the Project-specific construction data that was provided by the Applicant team and that was inputted into the model. As described by the California Air Pollution Control Officers Association's (CAPCOA's) May 2021 California Emissions Estimator Model User's Guide Version 2020.4.0 (the User's Guide that accompanies the version of the model used in the Final EIR), the graded acreage is calculated by the model based on the type of construction equipment and the number of equipment pieces, the number of days needed to complete the grading phase (and site preparation phase, where applicable), and the operational capabilities of the equipment to be utilized. Lastly, the application of the Project's Tier 4 Final construction equipment (included in the Draft EIR as AQ-PDF-1) was entirely removed from the Project's air quality model in the Final EIR to demonstrate that the Tier 4 Final construction equipment is not necessary to ensure that the Project's construction air quality emissions would be less than significant. While the Appellant provided their own version of the CalEEMod output for a project and asserts that the Project would result in a significant impact, the construction-period data that was utilized in their model does not match the Project-specific data provided by the Applicant team; therefore, the results do not accurately reflect the Project and do not constitute reliable, substantial evidence.

The Appellant also asserts that the operational period air quality emissions that were reported by CalEEMod were flawed, because the solid waste generation rate value was modified by the model user. However, the input for the Project's operational solid waste generation correctly accounted for compliance with Assembly Bill 341, which requires the City to divert 75 percent of its solid waste generated from landfills. The Appellants claim that the justification provided in the air model is insufficient and groundless. However, as the City is required to comply with the State regulation, the Project's construction and operational emissions are not underestimated, and the EIR adequately evaluates the impacts that operation of the Project will have on local and regional air quality.

Lastly, the Appellant asserts that, because the construction period and operation period emissions were based on a flawed CalEEMod, the resulting reported GHG emissions were inaccurate. However, as described above, the emission modeling provided in the Draft EIR does not underestimate the Project's construction and operational emissions, as the model's default input values were changed to Project-specific values. The Project's CalEEMod output files contain input values that are consistent with information disclosed in the Draft EIR, and justification for the changes from default-values to custom-values is also provided in CalEEMod. The Project's construction and operational air quality emissions were not underestimated and the Project's GHG emissions would remain less than significant.

The Appellant additionally claims that, when compared to the SCAQMD's 2035 service population efficiency target threshold, the Project's GHG emissions would result in a significant and unavoidable GHG impact. As discussed in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR and in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, the City, SCAQMD, California Air Resources Board, CAPCOA, or the Office of Planning and Research have not adopted numeric thresholds for assessing GHG emissions that are applicable to the Project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG impacts, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions consistent with CEQA Guidelines Section 15064.4. Notwithstanding, for informational purposes, the Project's GHG analysis did calculate the amount of GHG emissions that would be attributable to the Project using the recommended air quality models. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project. The analysis provided in Chapter IV.E of the Draft EIR, Greenhouse Gas Emissions, demonstrates that the Project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

The Appellant also reiterates that the Project would result in an 18 percent reduction of GHG emissions compared to the no-action-taken (NAT) scenario but states that the finding is unreliable, because the Final EIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. Contrary to the Appellant's assertion, the NAT scenario

CalEEMod is provided in Appendix F of the Draft EIR (refer to Greenhouse Gas Emissions Estimates – Without MXD/TDM [mixed-use development/transportation demand management]), as explained in Table IV.E-8 of Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR. Additionally, as discussed in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, and in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR, there are no SCAQMD-adopted or City-adopted numeric thresholds to apply to the evaluation of GHG impacts. Therefore, there are no quantitative standards for determining that the Project's GHG emissions would result in significant environmental impacts.

With regard to traffic congestion, the Project's construction period and operations transportation impacts were evaluated in Section IV.L, Transportation, of the Draft EIR. As described on pages IV.L-4 to IV.L-6 of the Draft EIR, on September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743, which went into effect in January 2014. SB 743 directed the Governor's Office of Planning and Research to develop revisions to the CEQA Guidelines by July 1, 2014 to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic levels of service (LOS). This started a process that changed transportation impact analysis under CEQA. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts for land use projects (such as the Project) and plans in California. The CEQA Guidelines, Section 15064.3, now establish vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts. Based on the State- and City-adopted CEQA Guidelines and thresholds for determining impact significance, the Project would result in a less-than-significant impact related to conflicts with Section 15064.3 of the CEQA Guidelines and VMT. Furthermore, the Project would result in less-than-significant impacts related to conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities; hazards due to a geometric design feature or incompatible uses; and inadequate emergency access (refer to Draft EIR Section IV.L, Transportation, pages IV.L-33 through IV.L-51), and the Appellant has provided no substantial evidence to the contrary.

With regard to other environmental impacts, SAFER provides no information and no substantial evidence demonstrating what additional environmental impacts would occur as a result of the Project and what additional mitigation may be required. The environmental topics that are required to be analyzed under CEQA for the Project have already been addressed in the Project IS, dated September 2017; in the Draft EIR, dated May 2022; or in the Final EIR, dated July 2023. The feasible mitigation measures that are required to be implemented to avoid or reduce Project impacts are provided in the Draft EIR, as well as in the Final EIR (refer to Chapter IV, Mitigation Monitoring Program, of the Final EIR).

Based on the information provided above and within Attachment A, no new significant environmental impacts, no substantial increases in the severity of any of the significant environmental impacts, no new mitigation measures, and no new impacts from mitigation measures not already identified in the Draft EIR for the Project would occur or are warranted. Therefore, no new significant information (as defined by the CEQA Guidelines Section 15088.5) that would require revision and recirculation of the Draft EIR has been identified.

Attachment A

Supplemental Responses from Envicom Corporation and Air Quality Dynamics (dated August 30, 2023) to the Comment Letter from Lozeau Drury LLP (dated August 15, 2023) envicom CORPORATION

MEMORANDUM

Date: August 30, 2023

To: Kathleen King, City Planner
City of Los Angeles, Department of City Planning

From: Johanna Falzarano, Senior Project Manager
Envicom Corporation

Bill Piazza, Environmental Engineer
Air Quality Dynamics

Subject: 4th and Hewitt Project Environmental Impact Report – Supplemental Responses to the August 15, 2023 Comment Letter

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On August 16, 2023, an Advisory Agency public hearing was held for the 4th and Hewitt Project (Project) Final Environmental Impact Report (EIR). Marjan Abubo of Lozeau Drury LLP, representing Supporters Alliance for Environmental Responsibility (SAFER) (collectively, Commenter), submitted a comment letter dated August 15, 2023, which raised comments regarding air quality and greenhouse gas (GHG) emission, indoor air quality, health risk, and biological resource impacts (included as Attachment A). Responses to these comments are provided below.

As demonstrated by these responses, the environmental topics raised by the Commenter have already been addressed in the Initial Study (IS), dated September 2017, in the Draft EIR, dated May 2022, or in the Final EIR, dated July 2023. No new significant environmental impacts, no substantial increases in the severity of any of the significant environmental impacts, no new mitigation measures, and no new impacts from mitigation measures not already identified in the Draft EIR for the Project would occur or are warranted. Therefore, no new significant information (as defined by the California Environmental Quality Act [CEQA] Guidelines Section 15088.5) that would require recirculation of the Draft EIR has been identified.

Topic 1. The Commenter asserts that substantial evidence shows that the Project will have significant air quality, health risk, and GHG impacts.

Air Quality

The Commenter states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant air quality impact on the basis that the emissions were underestimated when the default values in the California Emissions Estimator Model (CalEEMod) were changed to Project-specific values. As acknowledged by the Commenter, and as stated in the California Air Pollution Control Officers Association's CalEEMod User Guide (Version 2022.1, April 2022), several opportunities exist for the model user to change the defaults in the model and

4165 E. Thousand Oaks Blvd., Suite 290, Westlake Village, CA 91362 • (818) 879-4700 • www.envicomcorporation.com

to reference more appropriate data sources; however, the model user is required to provide justification for the changes in the "justification box" before the model even allows the user to continue to the next step. In both the CalEEMod output that is included in the Project Draft EIR in Appendix B, Air Quality Impact Analysis, and the updated CalEEMod output that is included in the Project Final EIR in Appendix FEIR-B, Revised California Emissions Estimator Model, such justification notes are provided.

Furthermore, Appendix B, Air Quality Impact Analysis, of the Draft EIR explains that the construction phase lengths were developed in coordination with the applicant team (including their expert contractor, Milender White), and Chapter II, Project Description, of the Draft EIR also references Milender White as the source for Project-specific demolition, construction, and earthwork data. The Final EIR, Chapter II, Responses to Comments, also details that the CalEEMod was revised to capture potential air emissions associated with operation of an emergency generator. As part of the Final EIR's CalEEMod revision, the construction schedule was also updated from 2021 to 2023 as utilized in the Draft EIR, to 2022 to 2025. The requirement for Tier 4 Final construction equipment was also removed from the revised CalEEMod that was prepared for the Final EIR, in response to Comment No. 4-6 on the Draft EIR (refer to Response to Comment No. 4-6 in Chapter II of the Final EIR).

As such, the changes to the CalEEMod default values related to construction equipment and phasing, earthwork, construction dates, and stationary equipment use are based on information provided by experts in their fields, and the changes are documented by the model users in the CalEEMod "justification boxes," in the Draft EIR, and in the Final EIR. As such, the Draft EIR and Final EIR conclusions regarding air quality impacts are supported by substantial evidence and remain less than significant.

Health Risk

The Commenter also states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant health risk impact during both construction and operations. However, the construction health risk assessment (HRA) is provided as Appendix FEIR-C of the Final EIR. As described in further detail in Response to Comment No. 4-7 in Chapter II, Responses to Comments, of the Final EIR, with regard to health risks associated with Project construction activities, the South Coast Air Quality Management District (SCAQMD) is the governing Air Quality Management District (AQMD) providing CEQA analysis guidance over the Project site and the surrounding area, rather than the Office of Environmental Health Hazard Assessment (OEHHA), as referenced by the Commenter.

It is the SCAQMD's rules and regulations that apply to the Project. The SCAQMD CEQA Air Quality Handbook does not recommend the analysis of toxic air contaminants (TACs) from short-term construction activities associated with land use development projects due to the limited duration of exposure. Although a construction HRA is not required by the SCAQMD (or the L.A. City CEQA Thresholds Guide,) and no guidance for HRAs for construction has been adopted by the SCAQMD or the City of Los Angeles (City), a construction HRA was prepared in accordance with United States Environmental Protection Agency, California Environmental Protection Agency, and SCAQMD assessment and dispersion modeling methodologies, for informational purposes only. The construction HRA is provided as Appendix FEIR-C of the Final EIR and shows that construction-period health risks from the Project development activities would be a maximum of 0.31 in one hundred thousand at 428 South Hewitt Street (the nearest sensitive land use), which would be below the significance threshold of one in one hundred thousand.

The Commenter further contends that diesel particulate matter (DPM) emissions associated with Project construction (and operation) may have the potential to expose sensitive receptors to substantial pollutant concentrations. This is based upon the Commenter's subsequent manipulation of the cancer risk estimates identified in the construction HRA, which the Commenter shows as exceeding the maximum incremental cancer risk of ten in one million (10E-06) established by the SCAQMD for projects prepared under the auspices of CEQA. As a result, the Commenter contends that a potentially significant impact exists whereby the construction HRA prepared for the Project fails to adequately evaluate the health impacts associated with both Project construction and operation. In response, the following discussion illustrates the Commenters' assertion of potential significance is based upon the misrepresentation of facts and misunderstanding of regulatory guidance.

The Commenter contends that the analysis of health risk must incorporate early-life exposure adjustments to characterize carcinogenic exposures to DPM, for emission sources that are subject to the OEHHA Air Toxics Hot Spots Program guidelines (Assembly Bill [AB] 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.). However, AB 2588 guidance has no statutory relation to projects prepared under CEQA. As reported by the California Air Resources Board (CARB), the Air Toxics "Hot Spots" Information and Assessment Act (AB2588, 1987, Connelly) was enacted in September 1987. Under this, stationary sources are required to report the types and quantities of certain substances their facilities routinely release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including, but not limited to, continuous and intermittent releases and process upsets or leaks. As such, AB2588 applies to specific commercial and industrial operations that have the potential to generate quantities of criteria and toxic air emissions that could present health risks. There are two broad classes of facilities subject to the AB2588 Program: Core facilities and facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (such as auto body shops and gas stations). Emissions generated from the construction and subsequent occupancy of an office building are not classified as stationary operations nor subject to evaluation under AB2588.

The Commenter also cites the SCAQMD regarding the preparation of HRAs in a manner consistent with the Risk Assessment Procedures for Rules 1401, 1401.1 and 212, whereby applicability is associated with stationary source operations. However, emissions generated by off-road construction equipment and non-permitted operational sources are not subject to the above referenced rules and agency regulations.

Additionally, in comments presented to the SCAQMD Governing Board (Meeting Date: June 5, 2015, Agenda No. 28) relating to TAC exposures, use of the OEHHA guidelines, and their applicability for projects subject to CEQA, as they relate to the incorporation of early-life exposure adjustments, it was reported that the Proposed Amended Rules are separate from the CEQA significance thresholds and that SCAQMD staff is evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will consider a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board. Contrary to the Commenter's assertion that available guidance exists, the SCAQMD, as a responsible and commenting agency, has not conducted public workshops nor developed policy relating to the applicability of applying the revised OEHHA guidance for projects prepared by other public/lead agencies subject to CEQA.

The Commenter also states that the Final EIR's construction HRA uses an underestimated Fraction of Time At Home value for the third trimester and infant receptors. The construction HRA addresses exposure to residential occupancies where fractional adjustments associated with time spent at home during a given day are appropriate. The fractional adjustments utilized in the construction HRA were developed by the OEHHA and CARB based upon activity pattern databases to estimate the percentage of the day that individuals are at home. This information is recommended to adjust exposure durations and carcinogenic risk estimates from specific facility emissions, based on the assumption that exposure to facility emissions do not occur away from home. Their review identified the number of minutes spent at home, statewide in California, and the percentage of total time spent at home. As a result, ages 0 to 2 spend 85 percent of their time at home. The time away from the home includes vacations. As such, the construction HRA considered this information a viable representation of fractional time adjustments and were incorporated, as reported, whereby a revision to the construction HRA is not warranted. Notwithstanding, should the fractional adjustments be revised to 1, the resultant carcinogenic risk value would increase by 0.6 in one million from 3.1E-06 (3.1 in one million) to 3.7E-06 (3.7 in one million). This incremental increase is well below the significance threshold of 10 in one million and, therefore, of no consequence.

Based upon the information presented above, the construction HRA submitted for the Project as part of the Final EIR provides a viable representation of construction-related emissions and presents substantial evidence showing that the Project will not have significant health impacts.

With regard to health risks during operation of the Project, the Commenter additionally suggests incorporating particulate (or PM10) exhaust emissions, as reported in the Project's air quality analysis, as a surrogate for DPM to address operational emissions. For this source category, CalEEMod predictive model estimates are associated with area, energy, and mobile sources. On-site area source emissions include hearths and landscape maintenance equipment. Energy-related emissions are associated with natural gas and electricity consumption. On-road mobile sources include running and start emissions. In consideration of these source categories, DPM emissions are only associated with a portion of the mobile source profile whereby the predominant source of emissions relates to vehicle miles traveled to and from the Project site. Although a portion of start emissions are generated on-site, they are associated with gasoline fueled vehicles and not diesel vehicles. The proposed land uses would not generally involve the use of heavy-duty diesel trucks with the exception of occasional moving trucks, trash trucks, or delivery trucks. As detailed in Response to Comment No. 4A-4, in Chapter II, Responses to Comments, of the Final EIR, the SCAQMD published and adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (such as, freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities).[1] The SCAQMD recommends that HRAs be conducted for substantial sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units). The Project is estimated to generate only 15.43 truck trips per day (refer to Final EIR Response to Comment No. 4A-4 for calculation details).

For stationary emissions during Project operations, the use of a proposed diesel-fueled emergency standby generator was identified as the only on-site DPM emission source. Such equipment that is located within the South Coast Air Basin is subject to the SCAQMD's permitting and operating procedures, which specify limits on maintenance and testing use as well as emission rates based on the generator's engine size. The SCAQMD maintains a list of certified internal combustion engine-emergency generators. The certification of equipment assures compliance with the SCAQMD regulations by identifying equipment that already meets their rule requirements. As explained in Response to Comment No. 4A-4 in Chapter II, Responses to Comments, of the Final EIR, the MTU/Rolls-Royce[2] unit proposed to be used in the Project's Office Building is on this list. Based on these factors and SCAQMD guidance, an operation HRA of proposed land uses and their effect on sensitive receptors in the Project area is not warranted.

Nevertheless, for informational purposes only, an operation HRA was prepared for the Project to evaluate the carcinogenic (cancer) and noncarcinogenic (noncancer) health risks associated with operation of the emergency generator. The operation HRA, including the detailed methodology and results, is included in Attachment B. As stated therein, the cancer health risk for the maximum exposed residential receptor for each occupancy would be below the significance threshold of one in one hundred thousand. Furthermore, an evaluation of the potential noncancer effects of DPM exposure was also conducted. These effects include the exacerbation of chronic heart and lung disease, including asthma and decreased lung function in children. The hazard index for the respiratory endpoint totaled less than one for all sensitive receptor occupancies. Should the total equal or exceed one, a health hazard is presumed to exist. Therefore, the Project's noncancer health risk impact would also be less than significant.

The Project health risk impacts during both construction and operations are supported by substantial evidence and remain less than significant, as reported in the Draft EIR and Final EIR.

GHG Emissions

The Commenter states that the Final EIR fails to present substantial evidence showing that the Project will have a less than significant GHG impact, on the basis that the emissions were

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1 SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, May 6, 2005.
2 MTU/Rolls-Royce Model 16V2000G86S, 1,839 brake horsepower.

underestimated when the default values in the CalEEMod were changed to Project-specific values. Please refer to the Topic 1, Air Quality, discussion above, which demonstrates that the changes to the CalEEMod defaults are justified. Therefore, the Project GHG emissions estimates are valid.

The Commenter also compares the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold and finds that the Project would result in a potentially significant GHG impact. In addition, the Commenter reiterates that the Project would result in an 18 percent reduction of GHG emissions compared to the no action taken (NAT) scenario but states that the finding is unreliable, because the Final EIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. First, contrary to the Commenter's assertion that the NAT scenario CalEEMod is not provided, the NAT scenario CalEEMod is provided in Appendix F of the Draft EIR (refer to Greenhouse Gas Emissions Estimates – Without MXD/TDM [mixed-use development/transportation demand management]), as explained in Table IV.E-8 of Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR. Additionally, as discussed in Response to Comment No. 4-8 in Chapter II, Responses to Comments, of the Final EIR, and in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR, there are no SCAQMD-adopted or City-adopted numeric thresholds to apply to the evaluation of GHG impacts. Therefore, there are no quantitative standards for determining that the Project's GHG emissions would result in significant environmental impacts. In the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted for the purpose of reducing the emissions of GHGs. The policy consistency analysis provided in Chapter IV.E, Greenhouse Gas Emissions, of the Draft EIR demonstrates that the Project would not conflict with applicable plans, policies, and regulations that have been adopted to reduce GHG emissions and impacts would be less than significant.

As such, the Draft EIR and Final EIR conclusions regarding GHG emissions impacts are supported by substantial evidence and remain less than significant.

Topic 2. The Commenter asserts that the Project fails to present substantial evidence showing that the Project will have a less than significant biological resources impact.

The Commenter states the Project will likely impact bird species flying along the Los Angeles River, due to the Project Site's close proximity to the Los Angeles River and the future green space/parks system that will be associated with the newly constructed 6th street viaduct bridge, and because the Project is in proximity to bird flight paths passing through the Bear Divide. The Commenter further states that the Project's height and windows conflict with the airspace normally used by birds, because glass façades of buildings intercept and kill many birds.

The Draft EIR does not evaluate Project impacts to biological resources in detail because the IS analysis (prepared in September 2017, published with the Notice of Preparation, and appended to the Draft EIR in Appendix A2) determined that such impacts would be less than significant and therefore did not warrant EIR analysis. As described in the IS, the Project Site is located in a highly urbanized area, supports minimal vegetation (in the form of street trees and ornamental landscaping), does not have riparian habitat (i.e., no water sources for wildlife), and is located approximately 0.35 miles west of a fully channelized, concrete-lined portion of the Los Angeles River. The Project Site does not contain sensitive natural communities or habitat as indicated in the City or regional plans or in regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (USFWS). Furthermore, the Project Site is not located in, or adjacent to, a Significant Ecological Area within the City. Due to the developed nature of the Project Site and surrounding area, the Project Site and vicinity do not support a migratory wildlife corridor or native wildlife nursery site.

The Bear Divide that is cited by the Commenter is located more than 20 miles northwest of the Project Site. However, as further detailed in the IS, street trees are located in the 4th Street right-of-way adjacent to the Project Site. Despite the low quality habitat that is available on the Project Site, the Project is subject to the Federal Migratory Bird Treaty Act (MBTA) of 1918 and the California Fish and Game Code. Street trees may potentially provide suitable nesting habitat for migratory birds, which are protected by the MBTA and the California Fish and Game Code. The MBTA is enforced by the USFWS and protects the migratory nongame native bird species listed in the Code of Federal Regulations Chapter 50, Section 10.13 and their nests. In accordance with the MBTA, Project tree removal activities would take place outside of the nesting season (February 15–September 15), if and to the extent feasible. To the extent that vegetation removal activities must occur during the nesting season, a biological monitor would be present during the removal activities to ensure that no active nests would be impacted. If active nests are found, a 300-foot buffer (500 feet for raptors) would be established until the fledglings have left the nest. As the Project would be required to comply with existing Federal and State laws that protect the migratory bird species that may potentially utilize trees in the Project vicinity for nesting habitat, impacts would be less than significant.

With regard to the Commenter's assertion that the Project's height and windows conflict with the airspace normally used by birds because glass façades of buildings intercept and kill many birds, the collision hazard of the Project would be similar to the collision hazard that is already the existing baseline environmental setting in the Project area (Downtown Los Angeles), which is fully developed with low-, mid-, and high-rise structures. Furthermore, according to the USFWS, nearly one billion birds collide with glass in the U.S. each year, and most of those fatalities happen at homes and buildings shorter than four stories tall.[3] The Project's Office Building would be 18 stories tall. Therefore, the Project would not exacerbate the existing collision hazard for birds.

Based on the information provided above, the Commenter has not presented substantial evidence that demonstrates that the Project would result in a significant biological resources impact. As reported in the 2017 IS for the Project, biological resource impacts would be less than significant.

Topic 3. The Commenter asserts that substantial evidence shows that the Project will likely have significant adverse indoor air quality and health impacts.

[3] USFWS, Threats to Birds: Collisions-Buildings & Glass, Available at: https://www.fws.gov/story/threats-birds-collisions-buildings-glass, Accessed on August 17, 2023.

The Commenter states that formaldehyde, a known human carcinogen, is found in many composite wood products (CWP) typically used in building materials and furnishings and commonly found in offices, warehouses, residences, and hotels. These materials contain formaldehyde-based glues that off-gas formaldehyde over a very long period of time. The Commenter further states that future full-time employees working at the Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, and that this risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

First, there are no requirements, guidance, or thresholds for determining impact significance available from the SCAQMD or City to evaluate indoor air quality (including health risk) impacts. Although the Commenter references a 10 per one million cancer risk threshold, this is the threshold that is used by the SCAQMD to evaluate the increase in cancer risk above ambient outdoor conditions. Therefore, the 10 per one million threshold does not apply to indoor air quality analyses and is irrelevant to the Project for determining indoor air quality impacts. Furthermore, the Commenter asserts that potentially adverse impacts to future users of a development resulting from a project's environmental impacts must be addressed by the CEQA review process. However, as determined by the California court of appeal in *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, the alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public at large: 'the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons.' [Citations omitted]". (Id. at page 782). Therefore, indoor air quality is not considered to be an impact under CEQA and need not be analyzed in the Project's EIR.

Second, as "supporting" documentation, the Commenter provides the results of two studies that measured the levels of indoor air contaminants (including formaldehyde) in new homes that were constructed after 2009, showing that the levels exceeded the inappropriately-applied SCAQMD threshold of 10 per one million. Beyond the threshold issue, the results of these studies do not constitute reliable substantial evidence for two additional reasons. The subject construction types of the studies were residences. Residential buildings would contain a different combination of steel, concrete, and wood construction than a mid- or high-rise commercial office building, such as that proposed with the Project. Residential construction typically uses more wood in comparison to mid- or high-rise commercial construction, and by the Commenter's own admission, wood is the more formaldehyde-containing product. Therefore, it is misleading to directly apply the results from these studies to the Project. Also, both studies have as their author or co-author the consultant (Dr. Offermann) who was hired by the Commenter to review and comment on the Final EIR.

Third, it is not yet known what specific building and interior finishing materials would be used for the Project. Such determinations are made after the Project is approved as part of the more detailed building permit design phase. And, to the extent that furnishings may contain CWP, the furniture and other materials that future Office Building occupants may choose to bring into the Project development is outside the control of the Project applicant. To speculate on the building and interior finishing materials in the EIR analysis is discouraged by CEQA (see e.g., CEQA Guidelines Sections 15064(f)(5) and 15145). Regardless, it is important to note that there is nothing unique about the Project compared to any other commercial building that would be constructed in California, whether it be a discretionary development such as the Project or a by-right development, as far as building and interior finishing materials are concerned. That is, the Project's building and interior finishing materials would be required to comply with all applicable regulations, including the City of Los Angeles Municipal Code, the City of Los Angeles Green Building Code (LAGBC), and the California Green Building Standards Code, (also referred to as CALGreen – Section 4.504.5). In addition, the Project would be required to comply with the applicable regulations of the CARB that provide specifications for acceptable formaldehyde concentrations in CWP. More specifically, the Project would be subject to CARB's CWP regulations that took effect in 2009. The Project would be required to comply with the CARB Airborne Toxic Control Measure (ATCM) to reduce formaldehyde emissions from CWP. The purpose of this ATCM is to reduce formaldehyde emissions from CWP that are sold, offered for sale, supplied, used, or manufactured for sale in California, which are specifically set at low levels intended to protect public health. The CWP regulation focuses on three products: hardwood plywood, particleboard, and medium density fiberboard. However, the CWP regulation also applies to CWP used in finished goods such as cabinets, doors, furniture, flooring products, moldings, toys, mirror and photo frames, audio speakers, base boards, shelving, and countertops.[4] This ATCM assures that these building materials and furnishings that are manufactured, distributed, imported, and used in new construction in California meet the maximum allowable concentrations that assure healthful indoor air quality. The CWP established two phases of emissions standards: an initial Phase I and the more stringent Phase II that requires that all finished goods, such as flooring, that are intended for sale or use in California are made using compliant CWP. As of January 2014, only Phase II products are legal for sale in California, and the Project would be required to comply with the more stringent Phase II requirements.

Based on the information provided above, the Project would not utilize more and may utilize less formaldehyde-based products than other buildings of its type, and the Project's building and interior finishing materials do not represent a unique or unusual development type that needs to be addressed in CEQA or that would indicate a substantial project-related impact; therefore, no special analysis or mitigation is required. The Project will comply with the existing codes and regulations in California, which adequately address potential emissions and risks from building materials to ensure safe practices and healthy indoor air.

Topic 4. The Commenter asserts that the Project must implement further mitigation measures to reduce the Project's significant air quality, health risk, GHG, and biological impacts.

The Commenter suggests that several additional mitigation measures are required of the Project to avoid or reduce significant air quality, health risk, GHG, and biological resource impacts. However, as demonstrated by the previous responses above, the Commenter does not provide substantial or credible evidence to support the assertions that the Project would result in significant air quality,

[4] CARB, Frequently Asked Questions for Consumers – Reducing Formaldehyde Emissions from Composite Wood Products, Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/compwood/consumer_faq.pdf, Accessed on August 18, 2023.

health risk, GHG, and biological resource impacts. Pursuant to Section 15064(f)(5) of the CEQA Guidelines, substantial evidence includes fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact. Substantial evidence is not argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment (Section 21080[d] and [e] of the Public Resources Code). As the claims and assertions presented by the Commenter are erroneous and/or supported by speculative and unsubstantiated assumptions, the City is not required to amend or recirculate the EIR, and no further mitigation measures are required. As determined by the IS, Draft EIR, and Final EIR analyses, air quality, health risk, GHG, and biological resource impacts of the Project would be less than significant, and no mitigation measures are required.

Topic 5. The Commenter asserts that the Final EIR fails to sufficiently justify a statement of overriding considerations.

The Commenter states that the Project would result in significant and unavoidable noise impacts and that the City will need to adopt a statement of overriding considerations to find that it is approving the Project despite its environmental harm due to its overriding benefits. The Commenter claims that the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be; therefore, a fiscal analysis must be prepared.

However, no such detailed economic analysis is required by CEQA. The City is aware that, given that the Project would result in significant and unavoidable impacts (related to temporary noise and vibration during the construction period), in accordance with Section 21081 of the Public Resources Code and the CEQA Guidelines, Sections 15092 and 15093, the City, as Lead Agency, must adopt a formal statement of overriding considerations, as required by CEQA, to demonstrate that the benefits of the Project outweigh the significant unavoidable adverse environmental effects. To do so, the City is required to balance, as applicable, not only the economic benefits, but also the legal, social, technological, and other relevant benefits of the Project against its significant unavoidable environmental impacts when determining whether to approve the Project.

As described in Response to Comment No. 4-18 in Chapter II, Responses to Comments, of the Final EIR, the Project's impacts related to air quality, noise, transportation, and public services are included in Sections IV.A, IV.I, IV.K.1 and IV.K.2, and IV.L, respectively, of the Draft EIR. Mitigation measures for significant and unavoidable impacts are only required for temporary Project impacts related to noise (and vibration) during the construction period, and these are also provided in Section IV.I of the Draft EIR. The Final EIR also provides additional analysis related to air quality and health risk; however, no new significant impacts and no new mitigation measures were identified that warrant recirculation of the Draft EIR. Further, as discussed in the Chapter V, Other CEQA Considerations, of the Draft EIR, the Project's benefits that would outweigh its temporary construction impacts include, but are not limited to, supporting City and regional land use and environmental goals by developing on an urban infill site near public transportation that creates job opportunities, as well as providing public open space; providing a pedestrian connection between Colyton Street and South Hewitt Street, and sidewalks where none currently exist;

providing economic and employment opportunities and tax revenue for the City by providing a net increase of 1,270 jobs, as well as by generating sales, property, and business license tax revenues; developing a project that would represent smart growth through the intensification of urban uses within the highly urbanized Arts District area in close proximity to transit and providing jobs in close proximity to existing housing, thereby contributing to the jobs-housing balance; and representing sustainable development through compliance with the LAGBC and CALGreen and by incorporating additional energy conservation features and sustainability measures required to achieve Leadership in Energy and Environmental Design (or LEED) Silver certification pursuant to Project Design Feature GHG-PDF-1. Each of these overriding considerations are fully analyzed in the EIR, and separately and independently (i) outweighs the adverse environmental impacts of the Project and (ii) justifies adoption of the Project and certification of the completed EIR. Therefore, the Draft EIR and Final EIR provide the City with substantial evidence on the environmental impacts of the Project to support the statement of overriding considerations provided in the CEQA Findings contained in the Department of City Planning's Staff Report.[5]

[5] Department of City Planning, Planning Department Staff Report, Vesting Tentative Tract Map No. 74745, Available at: https://planning.lacity.org/plndoc/Staff_Reports/2023/08-14-2023/VTT_74745.pdf, Accessed on August 22, 2023.

Attachment A

Lozeau Drury LLP Comment Letter

LOZEAU DRURY LLP

T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
Marjan@lozeaudrury.com

August 15, 2023
Via Email

Hearing Officer
Kathleen King, City Planner
City of Los Angeles
221 North Figueroa Street
Los Angeles, CA 90012
Kathleen.king@lacity.org

Re: Comment on Final Environmental Impact Report for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), August 16, 2023 Hearing Officer Hearing – Agenda Item No. 1

Dear Ms. King,

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Final Environmental Impact Report ("FEIR" or "Final EIR") prepared for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), proposed by the Applicant LIG – 900, 910 and 926 E. 4th St., 405-411 S. Hewitt St., LLC (the "Applicant"), including all actions related or referring to the 18-story office building that would provide a total of 343,925 square feet of floor area, and three subterranean levels of parking (SCH No. 2017091054) (the "Project").

After reviewing the FEIR, SAFER concludes that it fails as an informative document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, fails to consider the aerosphere as avian habitat, and fails to support its statement of overriding considerations with substantial evidence. SAFER therefore respectfully requests that the City of Los Angeles ("City") Department of City Planning deny approval of the FEIR, and to instead direct the City's Planning Division staff to address these shortcomings in a revised Environmental Impact Report ("REIR"), to be recirculated in accordance with the public review provisions of the California environmental Quality Act ("CEQA"). Public Resources Code, section 21000 et. seq.

SAFER's review of the EIR has been assisted by air quality experts Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D., of the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE") (CV and comments attached as Exhibit A); expert wildlife biologist Dr. Shawn Smallwood, PhD (comments attached as Exhibit B); and indoor air quality expert and Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH (CV and comments attached as Exhibit C).

PROJECT DESCRIPTION

The Project, located at 900-926 E. 4th Street; 406-414 S. Cloyton St.; and 405-423 S. Hewitt St., proposes to demolish an existing building, two storage/garage buildings, and surface parking lots. In its place, the Project will allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street.

The Project will include a total of 343,925 square feet of gross floor area, comprised of an existing 7,800 square-foot (existing Architecture and Design Museum) building and a new 336,125 square-foot office building, which would include approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space, 16,294 square feet of office exterior common areas, and a height of 292 feet to the top of the parapet and a maximum height of 297 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking, and the ground floor would also include 112 bicycle parking spaces.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See*, e.g.* Pub. Res. Code § 21100). The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652). "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 109).

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 CCR § 15002(a)(1)). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. ("*Goleta Valley*").

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *Goleta Valley*, 52 Cal.3d at 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (14 CCR §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it

has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B)). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal. App. 4th at 1355). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

(*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510).

"Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516). Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" (*Id.*). "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*). Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence. (*Id.* at 514.)

As applied this Project, the FEIR abjectly fails to meet these legal standards, as it is riddled with conclusory statements lacking any factual support or analysis. SAFER finds that the FEIR prepared for the Project is inadequate for the reasons set forth below.

DISCUSSION

I. Substantial Evidence Shows that the Project Will Have Significant Air Quality and Greenhouse Gas Impacts.

Air quality experts Matt Hagemann, P.G., C.Hg. and Dr. Paul E. Rosenfeld, PhD of the environmental consulting firm SWAPE reviewed the EIR and concluded that the Project will have significant air quality and greenhouse gas impacts. SWAPE's comments and expert CVs are attached as Exhibit A.

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

The Project's estimated emissions are underestimated. SWAPE reviewed the FEIR's CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs [were] not consistent with [the] information disclosed in the DEIR." (Ex. A., p. 2.).

SWAPE found that the EIR presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (*Id*., p. 3.) This is notable because the CalEEMod User Guide explicitly requires the Project to justify any changes to model defaults. (*Id*., p. 4). In the absence of any justification, the EIR "fails to provide substantial evidence to support the revised *individual* construction phase lengths." (*Id*., p. 3) (emph. added). As SWAPE explains, "[b]y including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance." (*Id*.) Therefore, the model provided for the Project "may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (*Id*., p. 4).

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14 CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to

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

b. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Health Risk Impact

The EIR fails to address potential health-related impacts resulting from the Project's likely air emissions. This is problematic because operation of construction equipment during construction of the proposed Project, as well as daily truck trips during future operations, will release diesel particulate matter ("DPM") emissions into the air, affecting local and regional air quality. DPM is a known human carcinogen which poses unique health risks to nearby sensitive receptors. Importantly, CEQA requires a quantified analysis to determine whether a Project's toxic air contaminant ("TAC") emissions—including DPM emissions—will have potentially adverse impacts on human health.

Current guidance by the Office of Environmental Health Hazard Assessment ("OEHHA"), the agency responsible for setting statewide standards to measure health risks under CEQA, recommends that a quantified Health Risk Assessment ("HRA") be prepared to evaluate potential cancer risks for any short-term construction project lasting more than two months, and for the lifetime of any long-term project lasting more than six months. OEHHA guidance also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk affecting the maximally exposed individual resident ("MEIR") near a proposed Project site. (*Id*., p. 10.) A project's imposition of health risks upon impacted MEIRs is further evaluated according to the sensitive receptor's age and pregnancy status. (*Id*., p. 14.)

Construction of the proposed Project is expected to last 30 months, and it is reasonable to assume, in the absence of any contrary assertion by the EIR, that future building operations will continue on the site for at least 30 years. Therefore, as SWAPE observes, "These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation." (*Id*., p. 9.)

Contrary to this established regulatory framework, however, the FEIR failed to prepare a quantified HRA for the Project's planned construction and operations. As such, the FEIR fails to present substantial evidence showing that the Project will not have a significant health impact, despite known health risks that will directly result from the Project's construction-related DPM emissions, its generation of hundreds of daily vehicle trips, and its projected TAC emissions that will impact local air quality during construction and future operations. (*Id*., pp. 8-9.) The FEIR additionally "fails to evaluate the combined lifetime cancer risk as a result of Project

construction and operation together" as it compares to the South Coast Air Quality Management District's ("SCAQMD") established significance threshold of 10 per million. (*Id*., p. 9.)

c. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Greenhouse Gas Impact

SWAPE rebuts the FEIR's unfounded assertions that the Project's greenhouse gas ("GHG") emissions will be less than significant. (*Id*., p. 11.). Specifically, SWAPE concludes that the Project's FEIR analysis and conclusion regarding the less-than-significant GHG impact is incorrect because the FEIR's quantitative GHG analysis relies on a flawed air model, the air model indicates a potentially significant GHG impact, and the FEIR fails to provide the CalEEMod model for the "No Action Taken" (NAT) scenario. (*Id*.).

First, SWAPE explains the FEIR's quantitative analysis is unsubstantiated because, as explained earlier, several input values are inconsistent with information provided in the FEIR. As SWAPE indicates, "the models may underestimate the Project's emissions, and the FEIR's quantitative analysis should not be relied upon to determine Project significance." Furthermore, in comparing the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold, SWAPE found that "the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact," thereby emphasizing how reliance on the FEIR's less-than-significant GHG impact conclusion to be improper.

Lastly, SWAPE found that the FEIR's estimate that the Project would have an 18% reduction of GHG emissions compared to the NAT scenario is unreliable because the FEIR "fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario." (*Id*., p. 13). As such, the FEIR's conclusion is not supported by substantial evidence and should be deemed invalid. Instead, before any approval on this Project is made, a revised FEIR should be prepared and recirculated to include an updated GHG analysis and incorporate additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels." (*Id*., p. 11-13.).

II. The Project Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Biological Resources Impact.

Expert Wildlife Biologist, Dr. Shawn Smallwood, PhD, has reviewed the FEIR and all relevant documents regarding the Project's biological impacts, notably on avian species. Based on this review, Dr. Smallwood concludes that the Project will likely impact bird species flying along the Los Angeles River. Dr. Smallwood is a leading expert on wildlife biology and has published extensively on the topic. Dr. Smallwood's CV and expert comments are attached as Exhibit B.

As a preliminary matter, Dr. Smallwood highlights the Project's failure to adequately analyze the Project's impact on wildlife movement. Given the Project's close proximity to the Los Angeles River and the newly constructed 6th street viaduct and the future green space/parks

system in underneath the bridge, as well as the likelihood of bird flight paths passing through the Bear Divide, "ample evidence is available that the site is important to wildlife in the region." (*Id*., p. 8). As such, the Project's failure to adequately assessment and analyze issues that the Project may raise on biological impacts underlines how the FEIR fails as an informational document.

In particular, Dr. Smallwood explains how the Project's height and proposed expansive windows on its façade come into direct conflict with the airspace normally used by birds. "Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors." (*Id*.). Additionally, bird collision issues are not time-restricted, especially since birds fly during both day and night. Dr. Smallwood expresses concern regarding the Project's potential to increase nighttime bird collisions, explaining how "[s] uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment." (*Id*., p. 6).

Given how birds protected under the Migratory Bird Treaty Act and California Migratory Bird Protection Act constitute the vast majority of the deaths along the Bear Divide, Dr. Smallwood opines that the Project's failure to neither analyze nor adequately provide mitigation measures to reduce bird collisions and deaths would result in a potentially significant biological impact. Therefore, a Final EIR "should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the Project." (*Id*., p. 11).

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

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the EIR and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future employees working at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann's CV and expert comments are attached as Exhibit C.

a. Future Employees Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. C., p. 2.)

Mr. Offermann explains that many composite wood products typically used in building materials and furnishings commonly found in offices, warehouses, residences, and hotels contain

formaldehyde-based glues which off-gas formaldehyde over a very long period of time. He states that "[t]he primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (*Id*., pp. 2-3.)

Mr. Offermann concludes that future full-time employees working at the proposed Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, ***even assuming*** that all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (*Id*., p. 4.) This risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

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

The EIR's failure to address the Project's formaldehyde emissions is also 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*"). In that case, the Supreme Court held that potentially adverse impacts to future users and residents resulting from a Project's environmental impacts must be addressed by the CEQA review process.

The issue before the Court in *CBIA* was whether an air district could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of existing environmental conditions that occurred near a project site. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects *on a project* (*CBIA*, 62 Cal.4th at 385-88). However, it ruled that agencies must still consider the extent to which a project may *exacerbate existing environmental conditions* at or near a project site, insofar as those conditions may affect the project's future users or residents. (*Id*. at 388.) Specifically, the Supreme Court wrote, 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 387 [emph. added].)

The Supreme Court's reasoning in *CBIA* is well-grounded in CEQA's statutory language. CEQA expressly identifies a project's effects on human beings as an effect that must be addressed as part of 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 386.) 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 future employees of the Project are human beings. It is therefore unquestionable that the health and safety of those workers is subject to CEQA's environmental safeguards.

b. The EIR Must Be Revised to Analyze and Mitigate the Project's Significant Adverse Indoor Air Quality and Health Impacts.

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 proposed Project will have significant impacts on health and air quality by emitting cancer-causing levels of formaldehyde into the air that will expose future employees working at the Project site to cancer risks potentially in excess of SCAQMD's significance threshold of 10 per million.

The carcinogenic formaldehyde emissions which Mr. Offermann identified are not an existing environmental condition. To the contrary, those emissions will be caused *by the Project* and will result in adverse effects on the environment. If built without appropriate mitigation, the Project will slowly emit formaldehyde over long periods of time to levels that pose significant direct and cumulative health risks to Project residents. Mr. Offermann underlines how "the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifie[d] an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air." (*Id*., pp. 4-5).

As noted above, the Supreme Court in *CBIA* expressly found that a Project's environmental impacts, including those that affect a "project's users and residents," must be addressed by the CEQA review process. Therefore, an EIR must be prepared to identify existing levels of TAC emissions near the Project site – such as those resulting from heavy daily truck traffic along the neighboring I-5 and I-10 freeways and corresponding industrial neighborhoods close to the Project site – and the impact that those will have on the health of future employees. Moreover, an EIR must evaluate the *cumulative adverse health effects* that will affect future employees as a result of the Project's indoor formaldehyde emissions *and* existing off-site TAC emissions.

Mr. Offermann concludes that these significant impacts should be analyzed in an EIR and that additional mitigation measures should be imposed to reduce the significant health risks that will result from indoor formaldehyde emissions. (*Id*., pp. 11-13.). Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and

health impacts which the EIR has failed to address. Therefore, the City must therefore prepare a REIR to fully evaluate and mitigate these impacts to the Project's future employees.

IV. The Project Must Implement Further Mitigation Measures to Reduce the Project's Significant Air Quality, Health Risk, Greenhouse Gas, and Biological Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564). Beyond its analysis of the FEIR's numerous analytical flaws, SWAPE, Dr. Smallwood, and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may be feasibly implemented to reduce the Project's significant air quality, human health, greenhouse gas, and biological impacts. This includes, as SWAPE suggests, considering the applicability of "incorporating solar power system into the Project design." (Ex. A, p. 17). Otherwise, other feasible measures include, but are not limited to, the following:

For issues related to air quality impacts:

- Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit;
- The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
  - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%
  - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
  - Nonroad diesel engines on site shall be Tier 2 or higher.
  - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
  - Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.

- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

For issues related to indoor air quality impacts:

- Imposing a requirement that the Applicant install air filters throughout the building; and
- Commit to using only composite wood materials that are made with CARB approved no-added formaldehyde (NAF) resins, or ultra-low emitting formaldehyde (ULEF) resins, for all of the buildings' interior spaces.

For issues related to GHG impacts:

- Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible;
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions;
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies;
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

For issues related to biological impacts:

- At a minimum, the Project should adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco, which includes adopting the following actions:
- 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; and
- funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care.

SAFER has presented substantial evidence that feasible mitigation measures exist to further reduce the Project's adverse impacts. Therefore, a revised FEIR must be developed to comply with CEQA by further analyzing the Project's likely adverse impacts and considering implementation of each of these proposed measures. The revised FEIR should "demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible." (*Id*., p. 17.) Until

such consideration of the feasibility of incorporating these mitigation measures has been analyzed, the Project should not be approved.

V. The FEIR Fails to Sufficiently Justify a Statement of Overriding Considerations.

The Project would result in significant and unavoidable impacts relative to specific noise impacts, including, off-road construction equipment noise, composite construction noise levels, off-road construction activity vibration (building damage), onroad construction vehicle vibration (human annoyance), cumulative off-road construction equipment noise, cumulative composite construction noise levels, and cumulative onroad construction vehicle vibration (human annoyance). (DEIR, p. I-11). As a result, the City will need to adopt a statement of overriding considerations. Under CEQA, when an agency approves a project with significant environmental impacts that will not be fully mitigated, it must adopt a "statement of overriding considerations" finding that, because of the project's overriding benefits, it is approving the project despite its environmental harm. (14 Cal.Code Regs. §15043; Pub. Res. Code §21081(B); Sierra Club v. Contra Costa County (1992) 10 Cal.App.4th 1212, 1222). A statement of overriding considerations expresses the "larger, more general reasons for approving the project, such as the need to create new jobs, provide housing, generate taxes and the like." (*Concerned Citizens of South Central LA v. Los Angeles Unif. Sch. Dist*. (1994) 24 Cal.App.4th 826, 847).

A statement of overriding considerations must be supported by substantial evidence in the record. (14 Cal. Code Regs. §15093(b); *Sierra Club v. Contra Costa Co*. (1992) 10 Cal.App.4th 1212, 1223)). The agency must make "a fully informed and publicly disclosed" decision that "specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project." (15 Cal. Code Regs. §15043(b)). As with all findings, the agency must present an explanation to supply the logical steps between the ultimate finding and the facts in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515).

Key among the findings that the lead agency must make is that:

> "Specific economic, legal, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report…[and that those] benefits of the project outweigh the significant effects on the environment."

(Pub. Res. Code §21081(a)(3), (b)). Thus, the City must make specific findings, supported by substantial evidence, concerning both the environmental impacts of the Project, and the economic benefits including "the provision of employment opportunities for highly trained workers" created. The EIR and its supporting documents fails to provide substantial evidence to support a statement of overriding considerations.

In short, the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be. A revised EIR, Fiscal Analysis and Statement of Overriding Considerations is required to provide this information.

CONCLUSION

In conclusion, SAFER believes that the FEIR fails as an informational document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, and fails to support its statement of overriding considerations with substantial evidence. In contrast, SAFER has presented substantial evidence of the EIR's various shortcomings and its corresponding failure to adequately disclose or mitigate the Project's likely significant adverse impacts. For these reasons, we respectfully request that the Planning Commission recommend that the City Council deny approval of the FEIR and instead direct City staff to prepare a revised FEIR in accordance with CEQA's public review provisions.

Sincerely,

Marjan Abubo
LOZEAU DRURY LLP

EXHIBIT A

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

August 11, 2023

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

Subject: Comments on the 4th and Hewitt Offices Project (SCH No. 2017091054)

Dear Mr. Abubo,

We have reviewed the Final Environmental Impact Report ("FEIR") for the 4th and Hewitt Offices Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to demolish the 7,030-square-foot ("SF") existing building and construct a 336,125-SF office building as well as a 39,751-SF parking lot on the 1.31-acre site.

Our review concludes that the FEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The FEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. III-14). [1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality

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

Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality Impact Analysis ("AQIA") as Appendix B to the FEIR, we found that several model inputs are not consistent with information disclosed in the FEIR and associated documents. As a result, the Project's construction-related and operational emissions may be underestimated. A revised EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	4.00	70.00
tblConstructionPhase	NumDays	200.00	547.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	NumDays	10.00	70.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 8, 9, 42, 43, 76, 77):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	12/5/2022	1/6/2023	5	25
2	Site Preparation	Site Preparation	12/31/2022	12/30/2022	5	0
3	Grading	Grading	1/9/2023	4/14/2023	5	70
4	Building Construction	Building Construction	4/17/2023	5/20/2025	5	547
5	Paving	Paving	2/5/2025	5/13/2025	5	70
6	Architectural Coating	Architectural Coating	2/5/2025	5/13/2025	5	70

As demonstrated in the excerpt above, the demolition phase is increased by 25%, from the default value of 20 to 25 days; the grading phase is increased by 1,650%, from the default value of 4 to 70 days; the building construction phase is increased by 174%, from the default value of 200 to 547 days; the paving phase is increased by 600%, from the default value of 10 to 70 days; and the architectural coating phase is increased by 600%, from the default value of 10 to 70 days. As previously mentioned, the CalEEMod

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

> “25 demo, 70 grading, 547 bldg, 70 pave and coat overlap bldg.” (Appendix B, pp. 2, 36, 70).

Regarding the anticipated construction schedule, the FEIR states:

> “Construction of the Project is anticipated to begin in 2022 and would conclude in 2025, with an overall duration of 30 months” (p. III-7).

However, the revised construction schedule remains unsubstantiated. According to the CalEEMod User’s Guide:

> “CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA.” [3]

As the FEIR only justifies the total construction duration of 30 months, the FEIR fails to provide substantial evidence to support the revised individual construction phase lengths. Until additional information is provided to justify the revised individual phase lengths, the model should have proportionally altered all phase lengths to match the proposed construction duration of 30 months.[4]

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User’s Guide, each construction phase is associated with different emissions activities (see excerpt below).[5]

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

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

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

[4] See Attachment A for proportionately altered construction schedule.

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

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

Incorrect Reduction to Acres of Grading Value

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes a reduction to the default acres of grading value (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	70.00	1.50

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is:

> "75,200 cy export." (Appendix B, pp. 3, 37, 71).

However, this change is incorrect. According to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres are based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[7]

As stated above, the default acres of grading values are based on the model's construction equipment and the length of the grading and site preparation phases. Here, the model changes the acres of the grading to reflect the acreage of the Project site. As the dimensions of the Project site have no impact on the acres of grading value, the revised value is unsubstantiated.

The unsubstantiated change presents an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[8] By including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

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[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/user's-guide, p. 9.
[8] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 9.

Unsubstantiated Changes to Solid Waste Generation Rates

Review of the CalEEMod output files demonstrates that "4th and Hewitt Project MXD-TDM" model includes several reductions to the default solid waste generation rates (see excerpt below) (Appendix B, pp. 4, 38, 72).

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	305.02	76.26
tblSolidWaste	SolidWasteGenerationRate	96.99	24.25

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is:

> "Required diversion" (Appendix FEIR-B, pp. 3, 37, 71).

Regarding the Project's solid waste generation rates, Appendix FEIR-B states:

> "Solid Waste Generation. The CalEEMod default solid waste generation inputs were adjusted to reflect a 75 percent reduction in solid waste disposal per the Assembly Bill 341 statewide goal for 2020" (Appendix B, pp. 19).

However, this justification remains insufficient. Even if the City achieves a 75% solid waste diversion rate does not guarantee the same diversion rate would be achieved locally at the Project site. Furthermore, the Exemption fails to provide substantial evidence or additional information regarding how the Project would achieve a 75% solid waste diversion rate. As such, we cannot verify the revised value.

This unsubstantiated reduction presents an issue, as CalEEMod uses the solid waste generation rate to calculate the Project's operation GHG emissions associated with the disposal of solid waste into landfills.[10] By including an unsubstantiated reduction to the default solid waste generation rate, the model may underestimate the Project's operational GHG emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the FEIR. In our updated model, we omitted the unsubstantiated reduction to the acres of grading value and the changes to solid waste generation rates; and included a proportionately adjusted construction schedule.[11]

Our updated analysis estimates that the Project's construction-related Reactive Organic Gases ("ROG") and Nitrogen Oxide ("NO_X") emissions both exceed the applicable SCAQMD thresholds of 75- and 100-

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[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 46.
[11] See Attachment B for revised air modeling.

pounds per day ("lbs/day"), respectively, as referenced by the FEIR (Appendix B, p. 10, Table 5) (see table below).

Maximum Daily Criteria Air Pollutant Emissions		
Construction Model	Construction	
	ROG	NOX
	(lbs/day)	
FEIR	48.6	44.2
SWAPE	126.1	238.0
% Increase	160%	439%
SCAQMD Threshold	**75**	**100**
Exceeds?	***Yes***	***Yes***

As demonstrated above, the Project's construction-related ROG and NO_X emissions, as estimated by SWAPE, increase by approximately 160% and 439%, respectively, and exceed the SCAQMD's applicable significance thresholds. Thus, our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the FEIR. As a result, a revised EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Diesel Particulate Matter Emissions Inadequately Evaluated

The FEIR conducts a health risk analysis ("HRA") evaluating impacts as a result of exposure to diesel particulate matter ("DPM") emissions from Project construction. Specifically, the FEIR estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project construction would be 3.1 in one million (Appendix C, p. 8, Table 4).

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	1.1E-07
0 to 2 years	2.8E-06
2 to 9 years	1.9E-07
Total	**3.1E-06**

Note: 3.1E-06 denotes an excess case of cancer of 0.31 in one hundred thousand (100,000) individuals exposed.

However, the FEIR fails to mention the TAC impacts or evaluate the health risks associated with Project operation. The EIR's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for six reasons.

First, the FEIR's construction-related HRA is incorrect, as it relies upon emissions estimates from a flawed air model. As previously discussed, upon review of the Project's CalEEMod output files, provided in Appendix B to the FEIR, we found that several model inputs are not consistent with information

disclosed in the FEIR. Therefore, the HRA may use an underestimated DPM concentration to calculate the health risk associated with Project construction. As such, the FEIR's construction-related HRA and the resulting cancer risk should not be relied upon to determine Project significance.

Second, the equation used to calculate the Project's construction-related cancer risk is incorrect as it fails to account for Age Sensitivity Factors ("ASF"). According to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the following ASF factors should be used when calculating cancer risks for different age groups:[12]

Age Group	Age Sensitivity Factor (unitless)
3rd Trimester	10
0<2 years	10
2<9 years	3
2<16 years	3
16<30 years	1
16-70 years	1

However, the HRA uses the following equation (see excerpt below) (Appendix C, p. 7):

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \text{ x } FAH$$

As demonstrated above, the equation used for the FEIR's construction-related HRA fails to include ASFs and is therefore incorrect. Instead, per OEHHA guidance, the FEIR should have used the following equation:[13]

A. <u>Equation 8.2.4 A:</u> $\boxed{\mathbf{RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH}}$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor (mg/kg-day^{-1})
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[13] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

By failing to include ASF values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis correctly accounting for ASF values.

Third, the FEIR's construction-related HRA uses an underestimated Fraction of Time At Home ("FAH") value for the third trimester and infant receptors. Specifically, the HRA states:

> "The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations" (p. 7).

As demonstrated above, the construction-related HRA relies on an FAH value of 0.85 for third trimester and infant receptors. However, these FAH values are incorrect, as SCAQMD guidance clearly states:

> "For Tiers 1, 2, and 3 screening purposes, the FAH is assumed to be 1 for ages third trimester to 16. As a default, children are assumed to attend a daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area affected by the facility's emissions. People older than age 16 are assumed to spend only 73 percent of their time at home."[14]

As such, per SCAQMD guidance, the HRA should have used an FAH of 1 for the third trimester and infant receptors. Thus, by utilizing incorrect FAH values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis using correct FAH values.

Fourth, by failing to prepare a quantified operational HRA, the Project is inconsistent with CEQA's requirement to make "a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."[15] According to the FEIR, operation of the Project is anticipated to generate increased daily vehicle trips, which would generate additional exhaust emissions and expose nearby sensitive receptors to DPM emissions (p. III-16). However, the FEIR fails to evaluate the TAC emissions associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the Project is inconsistent with CEQA's requirement to correlate the Project-generated emissions with potential adverse impacts on human health.

Fifth, as previously discussed, OEHHA, the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types

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[14] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[15] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[16] Furthermore, according to OEHHA:

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[17]

OEHHA also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk at the maximally exposed individual resident ("MEIR").[18] While the FEIR fails to provide the expected lifetime of the proposed Project, we can reasonably assume that the Project would operate for at least 30 years, if not more. Thus, operation of the Project exceeds the 2-month and 6-month requirements set forth by OEHHA and should be evaluated for the entire 30-year residential exposure duration, as indicated by OEHHA guidance. These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation.

Sixth, while the FEIR includes an HRA evaluating the Project's health risk impacts to nearby, existing receptors as a result of Project construction, the FEIR fails to evaluate the combined lifetime cancer risk as a result of Project construction and operation together. According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[19] However, the FEIR's HRA fails to sum each age bin to evaluate the combined cancer risk over the course of the Project's total construction and operation. This is incorrect, and such an updated analysis should be prepared to quantify and sum the entirety of the Project's construction and operational health risks together to compare to the SCAQMD threshold of 10 in one million.

Failure to Identify a Significant Health Risk Impact

As previously discussed, the FEIR estimates that the maximum individual cancer risk posed to nearby, existing sensitive receptors as a result of Project construction would be 3.1 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (Appendix C, p. 8, Table 4) However, as previously discussed, the FEIR fails to incorporate ASF values in the calculation of the cancer risk. As such, the Project's cancer risk estimate is underestimated and should not be relied upon to determine Project significance.

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[16] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[17] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[18] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 2-4.
[19] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4

In order to accurately evaluate the FEIR's construction-related cancer risk, we used the following equation which includes ASFs:

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

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

As previously discussed, according to OEHHA guidance, the appropriate ASF value for third trimester and infant receptors is 10. When correctly accounting for ASFs, the FEIR's estimated cancer risk increases to 31 in one million (see table below).

Project Construction Cancer Risk

Source	**Cancer Risk** (in one million)
FEIR (without ASFs)	3.1
FEIR (with ASFs)	31.0
SCAQMD Threshold	**10**
Exceeds?	***Yes***

As demonstrated in the table above, the resulting cancer risk estimate exceeds the SCAQMD threshold of 10 in one million, thus indicating a potentially significant health risk impact not previously identified or addressed by the FEIR. As such, the FEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. According to CEQA Guidelines § 15096(g)(2):

> "When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

As a result, the proposed Project should not be approved until all feasible mitigation has been considered and incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." As such, the FEIR fails to identify and adequately mitigate the Project's significant health risk impact and a revised EIR should be prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The FEIR estimates that the Project would generate net annual GHG emissions of 6,258 metric tons of carbon dioxide equivalents per year (“MT CO_2e/year”) (p. IV.E-54, Table IV.E-8). As a result, the FEIR concludes:

> “As shown above, GHG emissions generated by the Project would be approximately 6,258 $MTCO_2e$ per year, as compared to approximately 7,663 $MTCO_2e$ per year that would result from the NAT scenario. As such, the Project would achieve an approximately 18 percent reduction in GHG emissions when compared to the NAT scenario” (p. IV.E-54 – IV.E-55)

Furthermore, regarding the No Action Taken (“NAT”) scenario, the FEIR states:

> “To demonstrate that the Project's characteristics and design features result in a reduction of GHG emissions, CalEEMod was also used to estimate the GHG emissions that would have been generated by the Project if not for its specific characteristics (the No Action Taken, or NAT, scenario). The NAT scenario is conveyed as a point of comparison to show that GHG emissions generated by the Project as proposed would be less than those that could be generated by a similar scale development in the absence of any reduction features or mitigation measures beyond those required by federal, State, and local regulations” (p. IV.E-39).

As demonstrated above, the FEIR claims that the Project would emit less than other similar developments in a NAT scenario. However, the FEIR’s analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

(1) The FEIR’s quantitative GHG analysis relies upon a flawed air model;
(2) The FEIR’s unsubstantiated air model indicates a potentially significant impact; and
(3) The FEIR fails to provide the CalEEMod model for the NAT scenario.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). However, the FEIR’s quantitative analysis is unsubstantiated. As previously discussed, when reviewing the Project’s CalEEMod models we found that several of the values inputted into the models are not consistent with information disclosed in the FEIR. As a result, the models may underestimate the Project’s emissions, and the FEIR’s quantitative analysis should not be relied upon to determine Project significance. A revised EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

2) Failure to Identify a Potentially Significant GHG Impact

In an effort to quantitatively evaluate the Project’s GHG emissions, we compared the Project’s GHG emissions, as estimated by the FEIR, to the SCAQMD 2035 service population efficiency target of 3.0 MT

CO_2e/SP/year, which was calculated by applying a 40% reduction to the 2020 targets.[20] When applying this threshold, the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). According to CAPCOA's *CEQA & Climate Change* report, a service population ("SP") is defined as "the sum of the number of residents and the number of jobs supported by the project."[21] The FEIR indicates that the Project would employ 1,270 people during operation (p. IV.A-35). As the Project does not include any residential land uses, we estimate a SP of 1,270 people.[22] When dividing the Project's net annual GHG emissions, as estimated by the FEIR, by a SP of 1,270 people, we find that the Project would emit approximately 4.9 MT CO_2e/SP/year (see table below).[23]

FEIR Greenhouse Gas Emissions	
Annual Emissions (MT CO_2e/year)	6,258
Service Population	1,270
Service Population Efficiency (MT CO_2e/SP/year)	4.9
SCAQMD 2035 Target	**3.0**
Exceeds?	***Yes***

As demonstrated above, the Project's service population efficiency value, as estimated by the FEIR's provided net annual GHG emission estimates and SP, exceeds the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, indicating a potentially significant impact not previously identified or addressed by the FEIR and associated documents. As a result, the FEIR's less-than-significant GHG impact conclusion should not be relied upon. A revised EIR should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels.

3) Failure to Provide the CalEEMod Model for NAT Scenario

As previously mentioned, the FEIR relies on a CalEEMod model of an NAT scenario to determine whether the Project's GHG emissions would have a significant impact (p. IV.E-39). Specifically, the FEIR estimates that the Project would have a 18% reduction of GHG emissions when compared to the NAT scenario. (p. IV.E-39 - 41).

[20] "Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15." SCAQMD, September 2010, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, p. 2.
[21] "CEQA & Climate Change." California Air Pollution Control Officers Association (CAPCOA), January 2008, *available at:* https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf, p. 71-72.
[22] Calculated: 1,270 employees + 0 residents = 1,270 total SP.
[23] Calculated: (6,258 MT CO_2e/year) / (1,270 service population) = (4.9 MT CO_2e/SP/year).

However, this statement is unreliable as the FEIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. As such, we cannot confirm that any of the project specific characteristics would result in a reduction in GHG emissions. Additionally, to reduce the Project's GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality, health risk, and GHG impacts that should be mitigated further. In an effort to reduce the Project's emissions, we recommend consideration of SCAG's 2020 *RTP/SCS* PEIR's Air Quality Project Level Mitigation Measures ("PMM-AQ-1") and Greenhouse Gas Project Level Mitigation Measures ("PMM-GHG-1"), as described below: [24]

SCAG RTP/SCS 2020-2045
Air Quality Project Level Mitigation Measures – PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:
a) Minimize land disturbance.
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
c) Cover trucks when hauling dirt.
d) Stabilize the surface of dirt piles if not removed immediately.
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
f) Minimize unnecessary vehicular and machinery activities.
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.

[24] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." Southern California Association of Governments (SCAG), May 2020, *available at:* https://scag.ca.gov/peir.

j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
k) Ensure that all construction equipment is properly tuned and maintained.
l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.
m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.
r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD “SOON” funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.
z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
bb) The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible: - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85% - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%. - Nonroad diesel engines on site shall be Tier 2 or higher. - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or

CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.

- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
    - i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
    - ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
    - iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:
    - i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
    - ii. Any problems with the equipment or emission controls.
    - iii. Certified copies of fuel deliveries for the time period that identify:
        1. Source of supply
        2. Quantity of fuel
        3. Quantity of fuel, including sulfur content (percent by weight)

Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1

In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.

c) Include off-site measures to mitigate a project’s emissions.

d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:

- i. Use energy and fuel-efficient vehicles and equipment;
- ii. Deployment of zero- and/or near zero emission technologies;
- iii. Use lighting systems that are energy efficient, such as LED technology;
- iv. Use the minimum feasible amount of GHG-emitting construction materials;
- v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
- vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;

vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above.
e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following: i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program;
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that: i. Provide car-sharing, bike sharing, and ride-sharing programs; ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services; iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes.
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
j) Land use siting and design measures that reduce GHG emissions, including: i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit;

iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
m) Encourage telecommuting and alternative work schedules, such as: i. Staggered starting times ii. Flexible schedules iii. Compressed work weeks
n) Implement commute trip reduction marketing, such as: i. New employee orientation of trip reduction and alternative mode options ii. Event promotions iii. Publications
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: i. Explicitly charging for parking for its employees; ii. Implementing above market rate pricing; iii. Validating parking only for invited guests; iv. Not providing employee parking and transportation allowances; and v. Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

A revised EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project’s significant emissions are reduced to the maximum extent possible.

Disclaimer

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

Sincerely,

M Hagemann

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

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	343	0.0583	890	52
Site Preparation	2	343	0.0058	890	5
Grading	4	343	0.0117	890	10
Construction	200	343	0.5831	890	519
Paving	10	343	0.0292	890	26
Architectural Coating	10	343	0.0292	890	26

	Total Default Construction Duration		Revised Construction Duration
Start Date	12/5/2022		12/5/2022
End Date	11/13/2023		5/13/2025
Total Days	343		890

Attachment B

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0609	1,199.0609	0.0940	0.1069	1,233.2671
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4510	714.4510	0.0536	0.0395	727.5740
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0609**	**1,199.0609**	**0.0940**	**0.1069**	**1,233.2671**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0606	1,199.0606	0.0940	0.1069	1,233.2667
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4508	714.4508	0.0536	0.0395	727.5737
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0606**	**1,199.0606**	**0.0940**	**0.1069**	**1,233.2667**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-5-2022**	**3-4-2023**	1.8672	1.8672
2	**3-5-2023**	**6-4-2023**	0.6054	0.6054
3	**6-5-2023**	**9-4-2023**	0.6027	0.6027
4	**9-5-2023**	**12-4-2023**	2.2476	2.2476
5	**12-5-2023**	**3-4-2024**	0.6301	0.6301
6	**3-5-2024**	**6-4-2024**	0.5775	0.5775
7	**6-5-2024**	**9-4-2024**	0.5749	0.5749
8	**9-5-2024**	**12-4-2024**	0.5749	0.5749

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**12-5-2024**	**3-4-2025**	0.1894	0.1894
		Highest	2.2476	2.2476

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	

3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	
5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6309	230.6309	0.0392	0.0000	231.6100
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6309**	**230.6309**	**0.0392**	**0.0000**	**231.6100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6306	230.6306	0.0392	0.0000	231.6097
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6306**	**230.6306**	**0.0392**	**0.0000**	**231.6097**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9108	237.9108	0.0396	0.0000	238.9013
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9108**	**237.9108**	**0.0396**	**0.0000**	**238.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9105	237.9105	0.0396	0.0000	238.9010
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9105**	**237.9105**	**0.0396**	**0.0000**	**238.9010**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3042	15.3042	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3042**	**15.3042**	**4.8500e-003**	**0.0000**	**15.4254**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3041	15.3041	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3041**	**15.3041**	**4.8500e-003**	**0.0000**	**15.4254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Unmitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.7122	1,832.7122	0.0874	0.0106	1,838.0542
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.7122	1,832.7122	0.0874	0.0106	1,838.0542
NaturalGas Mitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899
NaturalGas Unmitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e +006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e +006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e +006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e +006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Unmitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	70.6564	0.5219	0.0126	87.4661
Unmitigated	70.6564	0.5219	0.0126	87.4661

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.6044	4.8227	0.0000	202.1714
Unmitigated	81.6044	4.8227	0.0000	202.1714

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Total	**0.0106**	**0.0473**	**0.0270**	**5.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5500e-003**	**1.5500e-003**	**0.0000**	**4.9047**	**4.9047**	**6.9000e-004**	**0.0000**	**4.9219**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.494 2	2,259.494 2	0.7308		2,277.763 3
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.494 2**	**2,259.494 2**	**0.7308**		**2,277.763 3**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.787 7	2,001.787 7	0.3399		2,010.285 8
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.787 7**	**2,001.787 7**	**0.3399**		**2,010.285 8**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.7965	1,982.7965	0.0665	0.2851	2,069.4080
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.1658	2,200.1658	0.0555	0.0508	2,216.6836
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.9623**	**4,182.9623**	**0.1219**	**0.3358**	**4,286.0916**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.0186	1,953.0186	0.0667	0.2811	2,038.4497
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.8062	2,137.8062	0.0502	0.0472	2,153.1322
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.8248**	**4,090.8248**	**0.1169**	**0.3283**	**4,191.5819**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.0186	1,953.0186	0.0667	0.2811	2,038.4497
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.8062	2,137.8062	0.0502	0.0472	2,153.1322
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.8248**	**4,090.8248**	**0.1169**	**0.3283**	**4,191.5819**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.688 0**	**1,297.688 0**	**0.4114**		**1,307.972 5**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Unmitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.976 1	1,694.976 1	0.0325	0.0311	1,705.048 5
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.976 1	1,694.976 1	0.0325	0.0311	1,705.048 5

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6005	5,983.6005	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6004	5,983.6004	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.141 0	1,986.141 0	0.0662	0.2858	2,072.971 9
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.177 9	2,084.177 9	0.0562	0.0542	2,101.745 9
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.318 9**	**4,070.318 9**	**0.1224**	**0.3401**	**4,174.717 8**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Unmitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

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

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

Professional Experience:

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

Positions Matt has held include:

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

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

<u>Senior Regulatory and Litigation Support Analyst:</u>

With SWAPE, Matt's responsibilities have included:

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

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

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

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

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

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

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

Policy:

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

Activities included the following:

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

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

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

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

Professional Experience

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

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

Professional History:

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

Publications:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Teaching Experience:

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

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

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

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

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

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

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

Academic Grants Awarded:

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

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

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

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

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

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

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

Deposition and/or Trial Testimony:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EXHIBIT B

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Courtney Shum, City Planner
221 North Figueroa Street, Room 1350
Los Angeles, California, 90012 3 August 2023

RE: 4th & Hewitt Project

Dear Ms. Shum,

I write to comment on potential impacts to biological resources that could result from the proposed project at site at 900, 902, 904, 906-910, and 926 East 4th Street; 406, 408, and 414 Colyton Street; 405, 407, 411, 417, and 423 South Hewitt Street (ENV-2017-470-EIR). I understand the project would include 343,925 square feet of office space with some commercial space in an 18-story, 292-foot-tall building on 1.31-acres. I am concerned that the project would cause significant impacts to biological resources that have not been analyzed in the DEIR. In particular, the DEIR entirely neglects to consider the aerosphere as avian habitat.

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

EXISTING ENVIRNMENTAL 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, neither of these needed steps were taken.

Environmental Setting informed by Field Surveys

No surveys for wildlife have been completed at the project site. The lack of surveys leaves the City of Los Angeles blind to any potential project impacts to biological resources, because without a survey there is no sound basis for characterizing the existing environmental setting. Of particular concern is that portion of the aerosphere overlying the footprint of the proposed building, and which species of birds and how many birds might fly through that airspace. Going forward with the project without completing appropriate wildlife surveys would be indefensible.

Environmental Setting informed by Desktop Review

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

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

In my assessment based on database review, 112 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 1). Of these 112 species, 92 are birds that are capable of flying within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 92 special-status species of birds, 31 (34%) have been documented within 1.5 miles of the site (‘Very close’), 29 (32%) within 1.5 and 4 miles (‘Nearby’), and another 32 (35%) within 4 to 30 miles (‘In region’). Two-thirds (65%) of the species in Table 1 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site’s airspace carries considerable potential for supporting many special-status species of birds based on proximity of recorded occurrences.

Table 1. *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.*

Common name	***Species name***	**Status[1]**	**Data base records**
Monarch	*Danaus plexippus*	FC	Very close
Brant	*Branta bernicla*	SSC2	In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL	Nearby
Redhead	*Aythya americana*	SSC2	Nearby
Western grebe	*Aechmophorus occidentalis*	BCC	Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2, BCC	Very close
Costa's hummingbird	*Calypte costae*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	Very close
Mountain plover	*Charadrius montanus*	SSC2, BCC	In region
Snowy plover	*Charadrius nivosus*	BCC	In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	In region
Whimbrel[2]	*Numenius phaeopus*	BCC	Nearby
Long-billed curlew	*Numenius americanus*	WL	In region
Marbled godwit	*Limosa fedoa*	BCC	In region
Red knot (Pacific)	*Calidris canutus*	BCC	In region
Short-billed dowitcher	*Limnodromus griseus*	BCC	In region
Willet	*Tringa semipalmata*	BCC	Very close
American avocet[2]	*Recurvirostra americana*	BCC	Very close
Laughing gull	*Leucophaeus atricilla*	WL	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	Very close
California least tern	*Sternula antillarum browni*	FE, CE, FP	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3	In region
Black tern	*Chlidonias niger*	SSC2, BCC	In region
Elegant tern	*Thalasseus elegans*	BCC, WL	In region
Black skimmer	*Rynchops niger*	BCC, SSC3	In region
Common loon	*Gavia immer*	SSC	In region
Brandt's cormorant	*Urile penicillatus*	BCC	In region
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC	Very close

Common name	*Species name*	Status[1]	Data base records
California brown pelican	*Pelecanus occidentalis californicus*	FP	In region
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, CFP	Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	Very close
Ferruginous hawk	*Buteo regalis*	WL, BOP	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP	In region
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Barn owl	*Tyto alba*	BOP	Very close
Western screech-owl	*Megascops kennicotti*	BOP	Nearby
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Lewis's woodpecker	*Melanerpes lewis*	BCC	Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Very close
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	CFP, BOP	Very close
Prairie falcon	*Falco mexicanus*	WL, BOP	In region
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Nearby
Willow flycatcher	*Empidonax trailii*	CE	Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Nearby
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby

Common name	***Species name***	**Status[1]**	**Data base records**
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Nearby
Cassin's finch	*Haemorhous cassinii*	BCC	In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	In region
Black-chinned sparrow	*Spizella atrogularis*	BCC	In region
Gray-headed junco	*Junco hyemalis caniceps*	WL	Nearby
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Nearby
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Hepatic tanager	*Piranga flava*	WL	In region
Summer tanager	*Piranga rubra*	SSC1	Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In region
Canyon bat	*Parastrellus hesperus*	WBWG:L	In region
Big brown bat	*Episticus fuscus*	WBWG:L	In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	Nearby
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	Nearby
Hoary bat	*Lasiurus cinereus*	WBWG:M	Nearby
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Western small-footed myotis	*Myotis cililabrum*	WBWG:M	In region
Miller's myotis	*Myotis evotis*	WBWG:M	In region
Little brown myotis	*Myotis lucifugus*	WBWG:M	In range
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
California myotis	*Myotis californicus*	WBWG:L	In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	Very close
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	Very close
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In region

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

Because the project would consist of a tall building largely covered in glass, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,360 birds of 113 species have been recorded flying into the Los Angeles area from 16 countries of the Americas, from as far away as Argentina and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgBoABgCsAiQHYCOClACoARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, 43,900 birds flew across portions of Los Angeles County during the night of 2 August 2023, the night before I completed my comments. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area. Many of these birds likely follow along the Los Angeles River, which passes near the site of the proposed project. One of the likely flight paths would be right across that portion of the aerosphere that overlies the footprint of the proposed building (Figure 1).

Bird flights average 35,200 per night during the nights of peak migration (https://dashboard.birdcast.info/region/US-CA-037). Most of these flights range in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Los Angeles, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the height of the proposed building. Assuming this percentage also applies to birds flying across the aerosphere overlying Los Angeles, then at peak migration documented by BirdCast, one can expect 4,541 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in Los Angeles comes in the forms of buildings and trees. In summary, the basis exists for concern that a large

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

number of birds might routinely fly through the aerosphere that would be displaced by the proposed 292-foot-tall building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

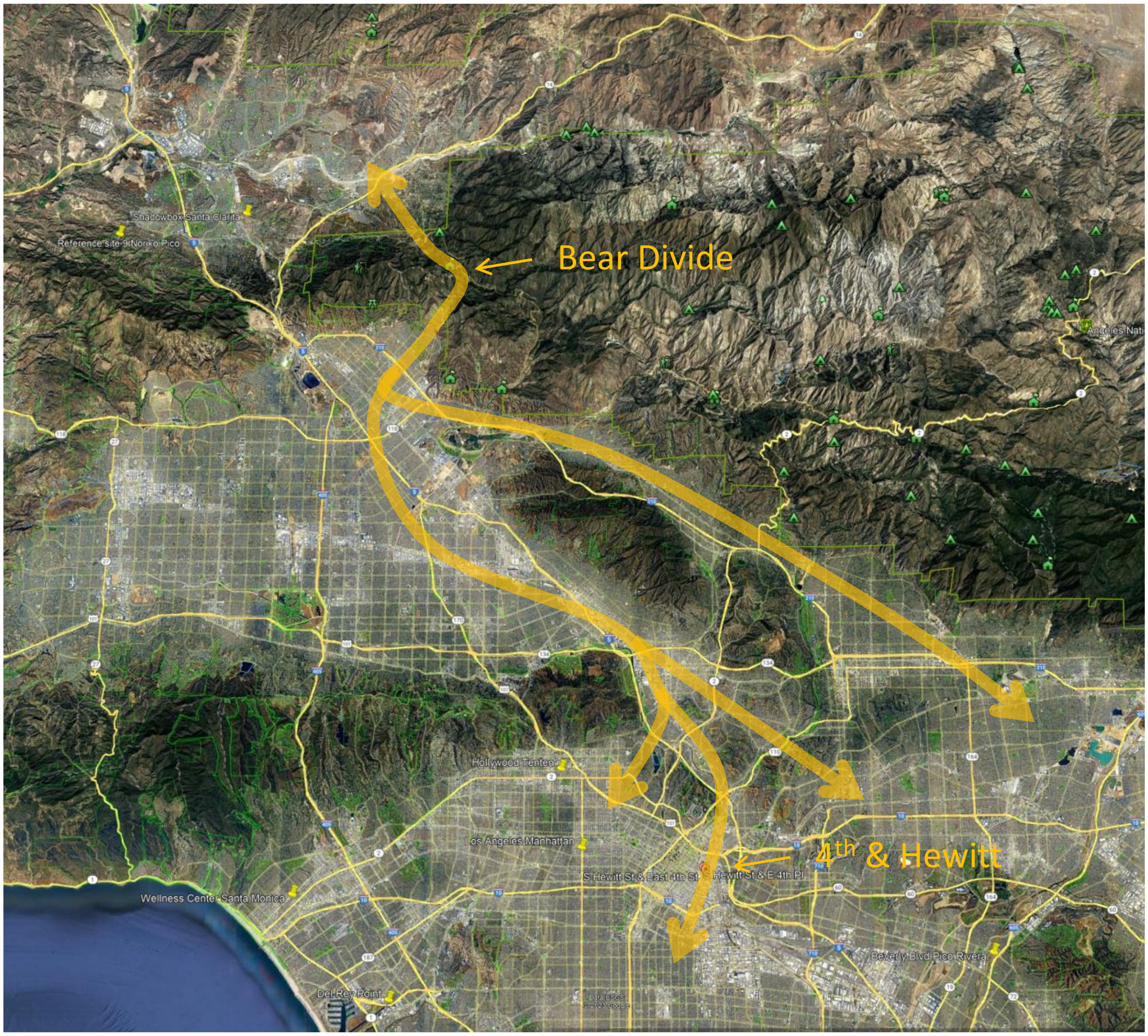

Figure 1. *Likely flight paths of birds passing through Bear Divide, which has been found to serve as a major pathway of bird migration through Los Angeles County (Terrill et al. 2021). The terrain in the map is exaggerated for improved visibility of how birds are likely channeled by the landscape.*

The DEIR should be revised to include an analysis of potential project impacts to birds and how to best mitigate those impacts. Adequate surveys and desktop review is needed to characterize the existing environmental setting in support of an EIR. And the environmental setting of principal concern in this case – the aerosphere – should be carefully examined for migratory bird traffic.

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how the proposed project would affect species of birds. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting, which in the case of this project would be the aerosphere of the project area. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and three important types of potential project impact have not been analyzed.

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. No analysis has been completed to address this concern. Ample evidence is available that the site is important to wildlife movement in the region (see above comments on flight activity). Considering the level of nocturnal flight activity in Los Angeles, the project's impact to wildlife movement would be significant, and as the project is currently proposed, this impact would be unmitigated.

BIRD-WINDOW COLLISIONS

The project would add an 18-story, 292-foot-tall building with expansive windows on its facade. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

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

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also,

the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

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

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

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) 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 at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142

bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 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 m^2 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 DEIR does not disclose the extent of glass windows and glass railings on the proposed new building. I therefore measured the extents of windows (though not of the railings) depicted in the building schematics within the DEIR, but I omitted the windows on the 2nd through 5th floors which consisted of a fine grain of small panels separated by framing. Based on my measurements, I estimate the project would include 10,425 m^2 of large-paneled glass in the project building's facades. Applying the mean fatality rate (above) to 10,425 m^2 of glass, I predict annual bird deaths of 762 (95% CI: 452–1,072).

The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised 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. The

EIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 14–17), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 14. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 15. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 16 and 17. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020*.)

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

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-

legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts an annual VMT of 7,222,925. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the DEIR's predicted annual VMT would predict 3,958 vertebrate wildlife fatalities per year. However, fewer animals would be killed in the urbanized part of Los Angeles that surrounds the project site as compared to the study area of Mendelsohn et al. (2009), so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would range between 5% to 10% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 198 to 396, which would be a significant, unmitigated impact to wildlife caused by the project.

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

CUMULATIVE IMPACTS

The project would insert an 18-story building into the airspace that has been used by volant wildlife for many thousands of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other mid-rise and high-rise buildings in the area. The project would also cause a predicted 762 (95% CI: 452–1,072) bird-window collision fatalities per year, and would generate a predicted additional 21,481,388 annual VMT, which would contribute 198 to 396 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Los Angeles. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The DEIR proposes no mitigation for potential project impacts to wildlife, including for impacts to flying birds. Below are recommendations for mitigation to be added to a revised DEIR.

RECOMMENDED MEASURES

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

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

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

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

The City of Los Angeles should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

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

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

Thank you for your consideration,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

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EXHIBIT C

IEE INDOOR ENVIRONMENTAL ENGINEERING IEE
1448 Pine Street, Suite 103 San Francisco, California 94109
Telephone: (415) 567-7700
E-mail: offermann@IEE-SF.com
http://www.iee-sf.com

Date: August 15, 2023

To: Marjan Kris Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 4th and Hewitt Project, Los Angeles, CA
(IEE File Reference: P-4736)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 μg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 μg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 μg/m^3. The median indoor formaldehyde concentration was 36 μg/m^3, and ranged from 4.8 to 136 μg/m^3, which corresponds to a median exceedance of the 2 μg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 μg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

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

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

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

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

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to 4th and Hewitt Project, Los Angeles, CA, the buildings consist of commercial office spaces.

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

Assuming that the office building employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day is 161 µg/day.

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

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

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

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V")

identifies an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

<u>Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment</u>

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

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

NOTE: As a result of the high-performance building rating systems and building codes

(California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers,” (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and

reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration ($\mu g/m^3$) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

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

where:

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

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

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots

Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to

insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

<u>Outdoor Air Ventilation Impact</u>. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is close to roads with moderate to high traffic (e.g., East 4th Street, East 4th Place, East 3rd Street, East 5th Street, South Hewitt Street, Colyton Street, etc.) and in Table IV-I-25 reports that the future plus Project ambient traffic noise levels will range from 55.1 to 71.7 dBA CNEL.

Thus, the Project is located in a sound impacted area and the building envelope and windows require 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.

<u>$PM_{2.5}$ Outdoor Concentrations Impact</u>. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 791 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct

testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

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

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

Attachment B

Operation Health Risk Assessment

September 15, 2022

Envicom Corporation
4165 East Thousand Oaks Boulevard, Suite 290
Westlake Village, California 91362
Attn: Travis Cullen

Re: 4th and Hewitt Project - Operation Health Risk Assessment

Mr. Cullen:

At your direction, Air Quality Dynamics has prepared a operation health risk assessment (HRA) to quantify the impact of diesel particulate matter (DPM), which is identified as a toxic air contaminant pursuant to California Code of Regulations Section 93001, associated with the use of a proposed emergency standby generator. This was done to supplement the air quality analysis prepared by Envicom Corporation, which evaluated criteria pollutant exposures associated with project operation.

The HRA quantifies both carcinogenic risks and noncarcinogenic hazards for the maximum exposed sensitive receptors located in proximity to the Project Site. A sensitive receptor is any residence, as well as schools, daycare centers and health facilities or similar live-in housing. To ensure a viable quantification of exposure, the technical approach used in the preparation of the HRA was composed of all relevant and appropriate assessment and dispersion modeling methodologies presented by the U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA) and South Coast Air Quality Management District (SCAQMD).

Results of the HRA showed that carcinogenic risk and noncarcinogenic hazard estimates for the maximum exposed sensitive receptors did not exceed identified significance thresholds. The following discussion outlines the methodology utilized to conduct the HRA and summarizes the protocol used to evaluate DPM exposures.

Source Identification

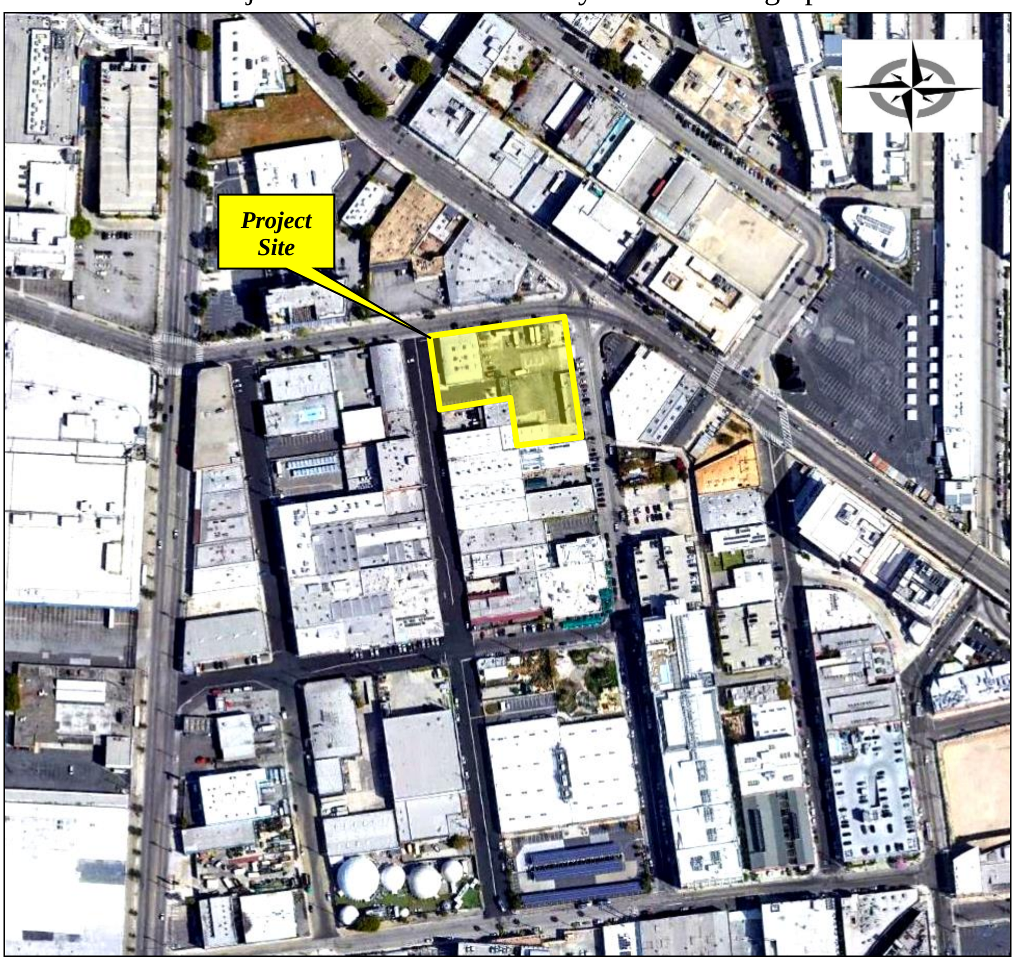
The Project proposes the construction of an 18-story Office Building. The Office Building would accommodate approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space and 16,294 square feet of office exterior common areas. Vehicle parking spaces would be provided within three subterranean levels and on the 2nd through 5th floors. Office space would comprise the 6th through 17th floors, with mechanical equipment located on the 18th floor. The height of the building extends above the 18th floor with a decorative slotted/mesh rooftop (parapet) and elevator overrun enclosure to an elevation of 297 feet above local terrain.

The 1.31 acre Project Site is located along East 4th Street between South Hewitt Street to the east and Colyton Street to the west. Industrial/commercial uses predominate to the south. The northwest portion of the site is comprised of the building formerly occupied by the Architecture and Design (A+D) Museum (0.23 acres) which is not subject to proposed site development with the exception of minor sidewalk improvements and related utility connections. The Project is located within the Central City North Community Plan area with a land use designation of M3-1-RIO (Heavy Industrial, Height District No. 1, River Improvement Overlay). The neighboring community consists of a mix of low intensity industrial warehouse/commercial uses, including several live/work and residential occupancies. In consideration of sensitive land uses, the following list identifies the occupancies and their relative location proximate to the Project Site.

- 825 East 4th Street - 190 feet northwest
- 801 East 4th Place - 350 feet north
- 428 South Hewitt Street - 80 feet southeast
- 510 South Hewitt Street - 380 feet southeast
- 442 Colyton Street - 200 feet south

Figure 1 presents an aerial photograph of the Project location and neighboring community.

Figure 1
Project Site Location /Vicinity Aerial Photograph



Source Characterization

For operation, on-site emissions are associated with area, energy, mobile and stationary sources. Area source emissions include hearths and landscape maintenance equipment. Energy related emissions are associated with natural gas and electricity consumption. Mobile sources include vehicle running and start emissions. In consideration of these source categories, DPM emissions are associated with a portion of the mobile source profile whereby the predominant source of emissions relate to vehicle miles traveled to and from the Project Site. Although a portion of start emissions are generated on-site, they are associated with gasoline fueled vehicles and not diesel vehicles. Service deliveries for proposed restaurant uses would entail the operation of transportation refrigeration units (TRUs), however, their operation would be well below the threshold of 40 trucks per day as recommended by CalEPA (*Air Quality Land Use Handbook: A Community Health Perspective*) to warrant further consideration. For stationary emissions, the use of a proposed diesel-fueled emergency standby generator was identified as the only on-site DPM emission source subject to further analysis.

The emergency standby generator will be used to maintain fire/life safety systems during a power failure and/or related electrical system interruption. The generator specifications were provided by the Project Applicant for standby service manufactured by MTU (model 16V2000 DS 1000). The equipment meets USEPA Tier 2 and California Air Resources Board Airborne Toxic Control Measure emission standards.

For equipment located within the South Coast Air Basin, emergency standby generators with power outputs greater than 50 brake horsepower (bhp) are limited to 200 operational hours per year during emergency power failures and related testing and maintenance. The MTU generator noted above is rated above 50 bhp whereby it is subject to operating conditions established by the SCAQMD. Table 1 provides the standby generator operating parameters considered in the assessment.

Table 1
Generator Specifications

Application	Unit
Maximum Brake Horsepower (bhp)	1,839
Exhaust Gas Temperature (ºF)	941
Exhaust Gas Flow Rate (CFM)	9,535
Exhaust Stack Diameter (inches)	12
Load Factor (percent)	100
Particulate Exhaust Emissions (g/bhp-hr)	0.15
Operational Hours (year)	200

Exposure Quantification

In order to assess the impact of DPM emissions, air quality modeling utilizing the American Meteorological Society (AMS)/EPA Regulatory Model (AERMOD) was performed. AERMOD is a steady-state Gaussian plume model applicable to directly emitted air pollutants that employs best state-of-practice parameterizations for characterizing meteorological influences and atmospheric dispersion. AERMOD is the USEPA's guideline model for the assessment of near-field pollutant dispersion.

The emergency standby generator was modeled as a point source with an emission rate of 0.07663 grams/second, utilizing the operating parameters identified in Table 1. The emission calculation worksheet is provided in Attachment B. An exhaust stack release height of 16.45 feet was assigned based upon the manufacturer's dimensional plan designs. The California Air Resources Board provides guidance (*Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, 2000) on the methodology for estimating ambient concentrations from DPM emission sources. Based upon this guidance, the intermittent use for the emergency standby generator was characterized by determining operational hours/day over a 365 day/year timeline. For 200 operational hours, the resultant value is 0.5479 hours/day (i.e., 200 hours/day / 365 days/year). This value was assigned to a given hour (scalar) producing the highest predicted concentration (i.e., ending hour 5). A scalar value of 0 was used for the remaining non-operational hours.

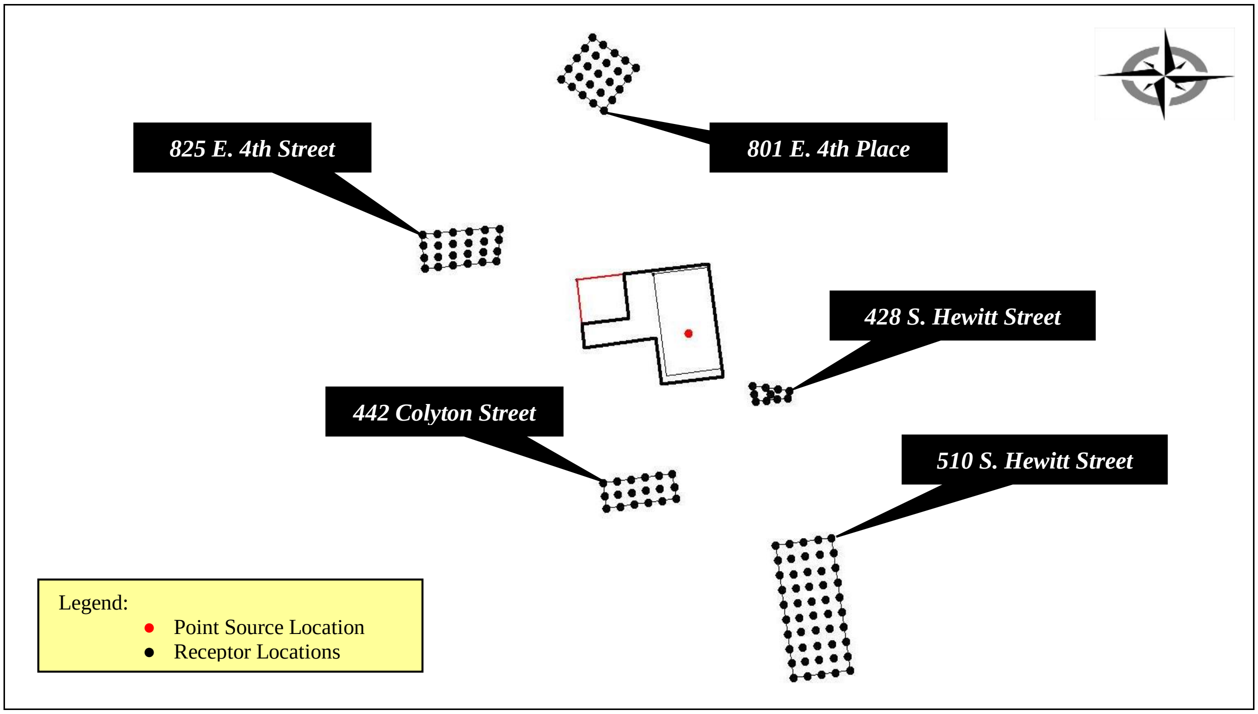
For this assessment, it was reported that the emergency standby generator would be placed on the mechanical equipment floor level, 274 feet above local terrain, whereby the building structure would influence the dispersion of the exhaust gas stream. As such, Plume Rise Modeling Enhancements (PRIME) incorporated in AERMOD were used to account for the influence of plume dispersion effects on the aerodynamic wakes and eddies produced by the building on the emission source. The direction-specific building dimensions used as inputs were determined by the Building Profile Input Program (BPIP PRIME). The parapet height was not considered based upon its design to allow air movement through the slotted/mesh configuration.

To accommodate a Cartesian grid format, direction dependent calculations were obtained by identifying the universal transverse mercator (UTM) coordinates for the source location and sensitive receptors proximate to the Project Site. A flagpole receptor height of two meters was assigned for each receptor location, with the exception of 428 South Hewitt Street, which was assigned a flagpole height of 6.1 meters, to accommodate the location of a trailer/motorhome situated atop the two-story commercial structure. Terrain height adjustments were additionally incorporated into the modeling exercise. A graphical representation of the source-receptor grid network, which identifies the sensitive receptor locations, is presented in Figure 2.

Refined air dispersion models require meteorological information to account for local atmospheric conditions. Due to their sensitivity to individual meteorological parameters, such as wind speed and direction, the USEPA recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, meteorological data from the SCAQMD Central Los Angeles monitoring station, which is located approximately 1.66 miles northeast of the Project Site, was used to represent local weather conditions and prevailing winds.

In a manner consistent with SCAQMD AERMOD modeling guidance for the assessment of chronic exposures, maximum concentrations were produced by incorporating all five years of available meteorological data. A copy of the AERMOD dispersion model and BPIP PRIME output files are provided in Attachment C.

Figure 2
Source-Receptor Grid Network



Risk Characterization

Carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Any exposure, therefore, will have some associated risk. As a result, the State of California (Title 22, California Code of Regulations, Sections 12705(b) and 12705(d)) has established a threshold of one in one hundred thousand (1.0E-05) as a level posing no significant risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65). Expressed as 10 in one million (10E-06), this threshold is also consistent with the maximum incremental cancer risk established by the SCAQMD.

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper-bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a 70 year lifetime. The URF and corresponding cancer potency factor for DPM utilized in the assessment was obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*.

A review of available guidance was conducted to determine applicability of the use of early life exposure adjustments to identified carcinogens. For risk assessments conducted under the auspices of The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.) a weighting factor is applied to all carcinogens regardless of purported mechanism of action. Notwithstanding, applicability of AB 2588 is limited to commercial and industrial operations. There are two broad classes of facilities subject to the AB 2588 Program: Core facilities and facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (e.g., auto body shops, gas stations and dry cleaners using perchloroethylene). The stationary source emissions generated from the operation of the Project are not classified as core operations nor subject to industry-wide source evaluation.

Additionally, in comments presented to the SCAQMD Governing Board (Meeting Date: June 5, 2015, Agenda No. 28) relating to toxic air contaminant exposures under Rules 1401, 1401.1, 1402 and 212 revisions, use of the revised OEHHA guidelines and their applicability for projects subject to CEQA as they relate to the incorporation of early-life exposure adjustments, it was reported that:

> The Proposed Amended Rules are separate from the CEQA significance thresholds. The Response to Comments Staff Report PAR 1401, 1401.1, 1402, and 212 A - 8 June 2015 SCAQMD staff is currently evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will evaluate a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board.

To date, the SCAQMD, as a commenting agency, has not conducted public workshops nor developed policy relating to the applicability of applying the revised OEHHA guidance for projects prepared by other public/lead agencies subject to CEQA.

As such, the HRA relied upon USEPA guidance relating to the use of early life exposure adjustment factors (*Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, EPA/630/R-003F), whereby adjustment factors are only considered when carcinogens act “through the mutagenic mode of action.” In 2006, the USEPA published a memorandum that provides guidance regarding the preparation of HRAs should carcinogenic compounds elicit a mutagenic mode of action (USEPA, 2006). As presented in the technical memorandum, numerous compounds were identified as having a mutagenic mode of action. For diesel particulates, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise < 1% of the exhaust particulate mass. To date, the USEPA reports that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action (USEPA, 2018).

In addition, the California Department of Toxic Substances Control (DTSC), which is charged with protecting individuals and the environment from the effects of toxic substances and responsible for assessing, investigating and evaluating sensitive receptor populations to ensure that properties are free of contamination or that health protective remediation levels are achieved has adopted the USEPA's policy in the application of early life exposure adjustments and is consistent with the methodology considered in the assessment of residential exposures.

To quantify dose, the procedure requires the incorporation of several discrete exposure variates. To account for upper bound exposures associated with residential occupancies, lifetime risk values were adjusted to account for an exposure frequency of 365 days per year. Exposure duration estimates assumed that an individual will remain at a given residence for a period of 30 years (i.e., 0.25 years for the third trimester, 2 years for ages 0 to 2 years, 14 years for ages 2 to 16 years and 14 years for ages 16 to 30 years). The 30-year exposure duration represents the high-end residency time utilized by both the USEPA and CalEPA for HRAs evaluating chronic exposures. Point estimates for daily breathing rates representing the 95th percentile of 361, 1090, 745 and 335 L/kg-day for the above referenced age groups were utilized and incorporated into the following dose algorithm.

$$Dose_{air} = C_{air} \times \{BR/BW\} \times A \times EF \; x \; 10^{-6}$$

Where:

$Dose_{air}$	=	*dose through inhalation (mg/kg/day)*
C_{air}	=	*concentration of contaminant in air (µg/m^3)*
$\{BR/BW\}$	=	*daily breathing rate normalized to body weight (L/kg body weight/day)*
A	=	*inhalation absorption factor (unitless)*
EF	=	*exposure frequency (days/365 days)*
10^{-6}	=	*micrograms to milligrams conversion*

The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years, 0.72 for ages and 2 to 16 years and 0.73 for ages 16 to 30 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations.

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \; x \; FAH$$

Where:

$Risk_{inh}$	=	*inhalation cancer risk*
$Dose_{air}$	=	*daily inhalation dose (mg/kg/day)*
CPF	=	*inhalation cancer potency factor (mg/kg/day^{-1})*
ED	=	*exposure duration for specified age group (years)*
AT	=	*averaging time (years)*
FAH	=	*fraction of time at home (unitless)*

Tables 2 through 6 present the carcinogenic risk estimates for the maximum exposed residential receptors. Attachment A, Tables A1 through A20, column b identify the predicted DPM concentrations, columns f-h, present the URF, corresponding cancer potency factor and dose estimates for the exposure scenarios considered in the assessment. The cancer risk estimate is presented in column i.

Table 2
Carcinogenic Risk / Maximum Exposed Residential Receptor
825 East 4th Street

Age Group	Risk
Third Trimester	9.7E-10
0 to 2 years	2.3E-08
2 to 16 years	9.5E-08
16 to 30 years	4.3E-08
Total	**1.6E-07**

Note: 1.6E-07 denotes an excess case of cancer of 0.016 in one hundred thousand (100,000) individuals exposed.

Table 3
Carcinogenic Risk / Maximum Exposed Residential Receptor
801 East 4th Place

Age Group	Risk
Third Trimester	3.0E-10
0 to 2 years	7.2E-09
2 to 16 years	2.9E-08
16 to 30 years	1.3E-08
Total	**5.0E-08**

Note: 5.0E-08 denotes an excess case of cancer of 0.005 in one hundred thousand (100,000) individuals exposed.

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	2.4E-09
0 to 2 years	5.8E-08
2 to 9 years	2.3E-07
16 to 30 years	1.1E-07
Total	**4.0E-07**

Note: 4.0E-07 denotes an excess case of cancer of 0.04 in one hundred thousand (100,000) individuals exposed.

Table 5
Carcinogenic Risk / Maximum Exposed Residential Receptor
510 South Hewitt Street

Age Group	Risk
Third Trimester	4.7E-10
0 to 2 years	1.1E-08
2 to 16 years	4.6E-08
16 to 30 years	2.1E-08
Total	**7.9E-08**

Note: 7.9E-08 denotes an excess case of cancer of 0.0079 in one hundred thousand (100,000) individuals exposed.

Table 6
Carcinogenic Risk / Maximum Exposed Residential Receptor
442 Colyton Street

Age Group	Risk
Third Trimester	1.4E-08
0 to 2 years	3.3E-07
2 to 16 years	1.3E-06
16 to 30 years	6.1E-07
Total	**2.3E-06**

Note: 2.3E-06 denotes an excess case of cancer of 0.23 in one hundred thousand (100,000) individuals exposed.

As noted above, the cancer risk for the maximum exposed residential receptor for each occupancy is predicted to be below the significance threshold of one in one hundred thousand (1.0E-05).

An evaluation of the potential noncancer effects of DPM exposure was also conducted. These effects include the exacerbation of chronic heart and lung disease, including asthma and decreased lung function in children. Under the point estimate approach, adverse health effects are evaluated by comparing the pollutant concentration with the appropriate Reference Exposure Level (REL). The chronic REL presented in the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* was considered in the assessment. There are no available acute/8-hour reference exposure levels for DPM.

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). To calculate the hazard index, the pollutant concentration or dose is divided by its toxicity value. Should the total equal or exceed one (i.e., unity), a health hazard is presumed to exist. No exposure frequency or duration adjustments are considered for noncarcinogenic exposures.

Table 7 presents the hazard index values for the identified sensitive receptor locations. Attachment A, Tables A1 through A20, column j, present the REL used in the evaluation of chronic noncarcinogenic exposures. The noncancer hazard index generated from the operation of the emergency generator is presented in column k.

Table 7
Noncarcinogenic Hazards

Receptor	Hazard
825 East 4th Street	1.7E-04
801 East 4th Place	5.2E-05
428 South Hewitt Street	4.2E-04
510 South Hewitt Street	8.2E-05
442 Colyton Street	2.4E-03

Note: 1.7E-04, 5.2E-05, 4.2E-04, 8.2E-05 and 2.4E-03 are commensurate with numeric values of 0.00017, 0.000052, 0.00042, 0.000082 and 0.0024, respectively.

As noted above, the hazard index for the respiratory endpoint totaled less than one for all sensitive receptor occupancies.

Conclusion

Based upon the predicted carcinogenic risk and noncarcinogenic hazard estimates for the identified exposure scenarios, the HRA demonstrates that operation of the Project will not result in unacceptable localized impacts.

I can be reached at (818) 703-3294 should you have any questions or require additional information.

Sincerely,

Bill Piazza

Attachment A:	Carcinogenic Risk/Noncarcinogenic Hazard Calculation Worksheets
Attachment B:	Emission Calculation Worksheet
Attachment C:	Dispersion Model/Building Downwash Output Files
Attachment D:	List of References

ATTACHMENT A

Carcinogenic Risk/Noncarcinogenic Hazard Calculation Worksheets

Table A1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.0E-07	9.7E-10	5.0E+00	1.4E-03	1.7E-04
TOTAL								9.7E-10			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A2
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	9.2E-07	2.3E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								2.3E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A3
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	6.3E-07	9.5E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								9.5E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A4
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
825 East 4th Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00084	8.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.8E-07	4.3E-08	5.0E+00	1.4E-03	1.7E-04
TOTAL								4.3E-08			1.7E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A5
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	($mg/kg/day$)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	9.4E-08	3.0E-10	5.0E+00	1.4E-03	5.2E-05
TOTAL								3.0E-10			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A6
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	($mg/kg/day$)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.8E-07	7.2E-09	5.0E+00	1.4E-03	5.2E-05
TOTAL								7.2E-09			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A7
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	($mg/kg/day$)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.9E-07	2.9E-08	5.0E+00	1.4E-03	5.2E-05
TOTAL								2.9E-08			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A8
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
801 East 4th Place / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	($mg/kg/day$)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00026	2.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	8.7E-08	1.3E-08	5.0E+00	1.4E-03	5.2E-05
TOTAL								1.3E-08			5.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A9
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	7.5E-07	2.4E-09	5.0E+00	1.4E-03	4.2E-04
TOTAL								2.4E-09			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A10
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.3E-06	5.8E-08	5.0E+00	1.4E-03	4.2E-04
TOTAL								5.8E-08			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A11
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.5E-06	2.3E-07	5.0E+00	1.4E-03	4.2E-04
TOTAL								2.3E-07			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A12
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
428 South Hewitt Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00208	2.08E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	7.0E-07	1.1E-07	5.0E+00	1.4E-03	4.2E-04
TOTAL								1.1E-07			4.2E-04

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A13
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.5E-07	4.7E-10	5.0E+00	1.4E-03	8.2E-05
TOTAL								4.7E-10			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A14
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.5E-07	1.1E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								1.1E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A15
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.1E-07	4.6E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								4.6E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A16
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
510 South Hewitt Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Standby Generator	0.00041	4.10E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.4E-07	2.1E-08	5.0E+00	1.4E-03	8.2E-05
TOTAL								2.1E-08			8.2E-05

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

Table A17
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (Third Trimester)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(1)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.3E-06	1.4E-08	5.0E+00	1.4E-03	2.4E-03
TOTAL								1.4E-08			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A18
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (0 to 2 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(1)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.3E-05	3.3E-07	5.0E+00	1.4E-03	2.4E-03
TOTAL								3.3E-07			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85

Table A19
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (2 to 16 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(1)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	8.9E-06	1.3E-06	5.0E+00	1.4E-03	2.4E-03
TOTAL								1.3E-06			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	745
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72

Table A20
Quantification of Carcinogenic Risks and Noncarcinogenic Hazard
442 Colyton Street / Maximum Exposed Residential Receptor (16 to 30 Year Age Group)

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazard		
					URF	CPF	DOSE	RISK	REL	RfD	RESP
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(1)
Standby Generator	0.01189	1.19E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.0E-06	6.1E-07	5.0E+00	1.4E-03	2.4E-03
TOTAL								6.1E-07			2.4E-03

Note:

Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	365
exposure duration (years)	14
inhalation rate (L/kg-day))	335
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73

ATTACHMENT B

Emission Calculation Worksheet

Emission Calculation Worksheet

EMERGENCY STANDBY GENERATOR
MTU 16V2000 DS1000

Operation: Diesel Fuel Oil Combustion

Temporal Profile: 0.5479 7 52

Equipment Specifications:

Equipment Used (#)	1.0
Operational Time (hrs)	200
Average Rated Horsepower	1839
PM10 Emission Factor (g/bhp-hr)	0.15
Load Factor (% / 100)	1.0

Emissions: 0.07663 g/sec

g/sec = ((equipment used) x (operational hours) x (average rated horsepower) x (PM10 emission factor) x (load factor))/(operational hrs/3600 seconds/hr)

ATTACHMENT C

Dispersion Model/Building Downwash Output Files

```
**BEE-Line Software:  (Version 12.09) data input file
**  Model: AERMOD.EXE     Input File Creation Date: 9/15/2022  Time: 1:02:41 PM
NO ECHO


   *** Message Summary For AERMOD Model Setup ***

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

 A Total of           0 Fatal Error Message(s)
 A Total of           3 Warning Message(s)
 A Total of           0 Informational Message(s)


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



    ********   WARNING MESSAGES   ********
 SO W320      20       PPARM: Input Parameter May Be Out-of-Range for Parameter            VS
 ME W186     195       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     195       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                              ***        09/15/22
 *** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                   ***        13:02:45
                                                                                                                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*

                                              ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT 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 URBAN Dispersion Algorithm for the SBL for     1 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   9818605.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Accepts FLAGPOLE Receptor . Heights.
      * The User Specified a Pollutant Type of: OTHER

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     128 Receptor(s)

                with:      1 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      0 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:  16216

**Output Options Selected:
         Model Outputs Tables of ANNUAL 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) =    87.00 ;  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:          F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.DTA
**Output Print File:             F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.LST

**File for Summary of Results:   F:\WD Passport\4th and Hewitt\model\SETUP_2_2010-2016_OTHER.SUM

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                           ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                ***        13:02:45
                                                                                                                  PAGE   2
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                                  *** POINT SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE     STACK   STACK    STACK     STACK    BLDG   URBAN  CAP/  EMIS RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.    HEIGHT  TEMP.   EXIT VEL. DIAMETER  EXISTS SOURCE HOR   SCALAR
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)  (METERS)                      VARY BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GEN_SET          0   0.76630E-01  385947.0 3767623.0    79.0    88.53   778.15    61.67     0.30    YES     YES   NO  HROFDY

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                           ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                ***        13:02:45
                                                                                                                  PAGE   3
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                           *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                              SOURCE IDs
-----------                                              ----------


 ALL        GEN_SET     ,

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                           ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                ***        13:02:45
                                                                                                                  PAGE   4
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINED AS URBAN SOURCES ***

 URBAN ID   URBAN POP                                    SOURCE IDs
 --------   ---------                                    ----------


             9818605.   GEN_SET     ,

*** AERMOD - VERSION 22112  ***   *** 4th and Hewitt Project                                           ***        09/15/22
*** AERMET - VERSION  16216 ***   *** Particulate (DPM) / Emergency Generator Operation                ***        13:02:45
                                                                                                                  PAGE   5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  URBAN  ADJ_U*

                                          *** DIRECTION SPECIFIC BUILDING DIMENSIONS ***
```

SOURCE ID: GEN_SET

IFV	BH	BW	BL	XADJ	YADJ	IFV	BH	BW	BL	XADJ	YADJ
1	83.5,	55.9,	75.8,	-30.1,	2.3,	2	83.5,	64.5,	77.3,	-31.4,	3.6,
3	83.5,	71.1,	76.4,	-31.7,	4.8,	4	83.5,	75.6,	73.2,	-31.0,	5.9,
5	83.5,	77.7,	67.7,	-29.3,	6.8,	6	83.5,	77.5,	60.2,	-26.8,	7.5,
7	83.5,	75.0,	50.9,	-23.5,	7.9,	8	83.5,	70.2,	40.0,	-19.4,	8.1,
9	83.5,	72.1,	45.6,	-23.7,	8.1,	10	83.5,	75.8,	55.9,	-30.2,	7.8,
11	83.5,	77.3,	64.5,	-35.8,	7.3,	12	83.5,	76.4,	71.1,	-40.4,	6.5,
13	83.5,	73.2,	75.6,	-43.7,	5.6,	14	83.5,	67.7,	77.7,	-45.6,	4.5,
15	83.5,	60.2,	77.5,	-46.2,	3.3,	16	83.5,	50.9,	75.0,	-45.4,	1.9,
17	83.5,	40.0,	70.2,	-43.2,	0.6,	18	83.5,	45.6,	72.1,	-44.1,	-0.9,
19	83.5,	55.9,	75.8,	-45.7,	-2.3,	20	83.5,	64.5,	77.3,	-45.9,	-3.6,
21	83.5,	71.1,	76.4,	-44.7,	-4.8,	22	83.5,	75.6,	73.2,	-42.2,	-5.9,
23	83.5,	77.7,	67.7,	-38.4,	-6.8,	24	83.5,	77.5,	60.2,	-33.4,	-7.5,
25	83.5,	75.0,	50.9,	-27.4,	-7.9,	26	83.5,	70.2,	40.0,	-20.6,	-8.1,
27	83.5,	72.1,	45.6,	-21.9,	-8.1,	28	83.5,	75.8,	55.9,	-25.7,	-7.8,
29	83.5,	77.3,	64.5,	-28.6,	-7.3,	30	83.5,	76.4,	71.1,	-30.7,	-6.5,
31	83.5,	73.2,	75.6,	-31.9,	-5.6,	32	83.5,	67.7,	77.7,	-32.1,	-4.5,
33	83.5,	60.2,	77.5,	-31.3,	-3.3,	34	83.5,	50.9,	75.0,	-29.6,	-1.9,
35	83.5,	40.0,	70.2,	-26.9,	-0.6,	36	83.5,	45.6,	72.1,	-28.0,	0.9,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

SOURCE ID = GEN_SET ; SOURCE TYPE = POINT :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.54790E+00	6	.00000E+00
7	.00000E+00	8	.00000E+00	9	.00000E+00	10	.00000E+00	11	.00000E+00	12	.00000E+00
13	.00000E+00	14	.00000E+00	15	.00000E+00	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(385780.1,	3767681.8,	79.0,	79.0,	2.0);	(385790.2,	3767682.5,	79.0,	79.0,	2.0);
(385800.5,	3767683.4,	79.0,	79.0,	2.0);	(385810.8,	3767684.3,	79.0,	79.0,	2.0);
(385780.4,	3767674.1,	79.0,	79.0,	2.0);	(385790.0,	3767674.8,	79.0,	79.0,	2.0);
(385800.1,	3767676.2,	79.0,	79.0,	2.0);	(385810.2,	3767677.0,	79.0,	79.0,	2.0);
(385769.7,	3767688.7,	79.0,	79.0,	2.0);	(385779.7,	3767689.3,	79.0,	79.0,	2.0);
(385790.2,	3767690.2,	79.0,	79.0,	2.0);	(385800.9,	3767691.1,	79.0,	79.0,	2.0);
(385811.2,	3767692.1,	79.0,	79.0,	2.0);	(385821.2,	3767692.8,	79.0,	79.0,	2.0);
(385820.4,	3767685.5,	79.0,	79.0,	2.0);	(385819.7,	3767677.6,	79.0,	79.0,	2.0);
(385818.9,	3767671.1,	79.0,	79.0,	2.0);	(385809.9,	3767670.5,	79.0,	79.0,	2.0);
(385799.8,	3767669.4,	79.0,	79.0,	2.0);	(385790.0,	3767668.4,	79.0,	79.0,	2.0);
(385780.4,	3767667.5,	79.0,	79.0,	2.0);	(385771.7,	3767666.3,	79.0,	79.0,	2.0);
(385771.1,	3767673.6,	79.0,	79.0,	2.0);	(385770.5,	3767681.5,	79.0,	79.0,	2.0);
(385884.9,	3767807.8,	79.0,	79.0,	2.0);	(385879.4,	3767800.6,	79.0,	79.0,	2.0);
(385874.0,	3767793.7,	79.0,	79.0,	2.0);	(385892.0,	3767802.7,	79.0,	79.0,	2.0);
(385886.6,	3767795.6,	79.0,	79.0,	2.0);	(385881.1,	3767788.8,	79.0,	79.0,	2.0);
(385899.7,	3767797.6,	79.0,	79.0,	2.0);	(385894.3,	3767790.5,	79.0,	79.0,	2.0);
(385888.6,	3767783.2,	79.0,	79.0,	2.0);	(385883.0,	3767820.0,	79.0,	79.0,	2.0);
(385890.2,	3767814.9,	79.0,	79.0,	2.0);	(385897.4,	3767809.7,	79.0,	79.0,	2.0);
(385904.6,	3767804.6,	79.0,	79.0,	2.0);	(385911.8,	3767799.4,	79.0,	79.0,	2.0);
(385906.5,	3767792.4,	79.0,	79.0,	2.0);	(385901.2,	3767785.3,	79.0,	79.0,	2.0);
(385895.9,	3767778.3,	79.0,	79.0,	2.0);	(385890.6,	3767771.2,	79.0,	79.0,	2.0);
(385883.7,	3767776.4,	79.0,	79.0,	2.0);	(385876.3,	3767781.6,	79.0,	79.0,	2.0);
(385869.2,	3767786.8,	79.0,	79.0,	2.0);	(385862.0,	3767792.0,	79.0,	79.0,	2.0);
(385867.3,	3767799.0,	79.0,	79.0,	2.0);	(385872.5,	3767806.0,	79.0,	79.0,	2.0);
(385877.8,	3767813.0,	79.0,	79.0,	2.0);	(386001.4,	3767582.7,	79.0,	79.0,	6.1);

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   ( 385989.7, 3767588.0,      79.0,      79.0,       6.1);        ( 385998.0, 3767587.0,      79.0,      79.0,       6.1);
   ( 386006.3, 3767586.0,      79.0,      79.0,       6.1);        ( 386014.0, 3767585.0,      79.0,      79.0,       6.1);
   ( 386013.0, 3767580.0,      79.0,      79.0,       6.1);        ( 386005.8, 3767579.2,      79.0,      79.0,       6.1);
   ( 385998.5, 3767578.4,      79.0,      79.0,       6.1);        ( 385991.5, 3767577.7,      79.0,      79.0,       6.1);
   ( 385990.7, 3767582.9,      79.0,      79.0,       6.1);        ( 386015.2, 3767473.5,      79.0,      79.0,       2.0);
   ( 386016.7, 3767463.2,      79.0,      79.0,       2.0);        ( 386018.2, 3767453.8,      79.0,      79.0,       2.0);
   ( 386019.5, 3767443.9,      79.0,      79.0,       2.0);        ( 386020.6, 3767434.1,      79.0,      79.0,       2.0);
   ( 386021.9, 3767424.7,      79.0,      79.0,       2.0);        ( 386023.0, 3767414.4,      79.0,      79.0,       2.0);
   ( 386024.5, 3767405.0,      79.0,      79.0,       2.0);        ( 386024.5, 3767475.0,      79.0,      79.0,       2.0);
   ( 386026.0, 3767464.5,      79.0,      79.0,       2.0);        ( 386027.4, 3767454.9,      79.0,      79.0,       2.0);
   ( 386028.7, 3767445.0,      79.0,      79.0,       2.0);        ( 386030.0, 3767435.6,      79.0,      79.0,       2.0);
   ( 386031.3, 3767425.9,      79.0,      79.0,       2.0);        ( 386032.6, 3767415.5,      79.0,      79.0,       2.0);
   ( 386033.7, 3767406.1,      79.0,      79.0,       2.0);        ( 386034.3, 3767476.2,      79.0,      79.0,       2.0);
   ( 386035.6, 3767465.5,      79.0,      79.0,       2.0);        ( 386036.7, 3767456.1,      79.0,      79.0,       2.0);
   ( 386038.2, 3767446.3,      79.0,      79.0,       2.0);        ( 386039.6, 3767436.6,      79.0,      79.0,       2.0);
   ( 386040.9, 3767426.8,      79.0,      79.0,       2.0);        ( 386042.2, 3767416.7,      79.0,      79.0,       2.0);
   ( 386043.5, 3767407.5,      79.0,      79.0,       2.0);        ( 386005.0, 3767482.0,      79.0,      79.0,       2.0);
   ( 386014.1, 3767483.3,      79.0,      79.0,       2.0);        ( 386023.5, 3767484.6,      79.0,      79.0,       2.0);
   ( 386033.2, 3767486.1,      79.0,      79.0,       2.0);        ( 386042.0, 3767487.0,      79.0,      79.0,       2.0);
   ( 386043.4, 3767477.2,      79.0,      79.0,       2.0);        ( 386044.7, 3767467.4,      79.0,      79.0,       2.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
   ( 386046.1, 3767457.6,      79.0,      79.0,       2.0);        ( 386047.4, 3767447.8,      79.0,      79.0,       2.0);
   ( 386048.8, 3767438.1,      79.0,      79.0,       2.0);        ( 386050.1, 3767428.3,      79.0,      79.0,       2.0);
   ( 386051.5, 3767418.5,      79.0,      79.0,       2.0);        ( 386052.8, 3767408.7,      79.0,      79.0,       2.0);
   ( 386054.2, 3767398.9,      79.0,      79.0,       2.0);        ( 386044.9, 3767397.7,      79.0,      79.0,       2.0);
   ( 386035.6, 3767396.5,      79.0,      79.0,       2.0);        ( 386026.3, 3767395.3,      79.0,      79.0,       2.0);
   ( 386017.0, 3767394.1,      79.0,      79.0,       2.0);        ( 386015.7, 3767403.9,      79.0,      79.0,       2.0);
   ( 386014.3, 3767413.6,      79.0,      79.0,       2.0);        ( 386013.0, 3767423.4,      79.0,      79.0,       2.0);
   ( 386011.7, 3767433.2,      79.0,      79.0,       2.0);        ( 386010.3, 3767442.9,      79.0,      79.0,       2.0);
   ( 386009.0, 3767452.7,      79.0,      79.0,       2.0);        ( 386007.7, 3767462.5,      79.0,      79.0,       2.0);
   ( 386006.3, 3767472.2,      79.0,      79.0,       2.0);        ( 386005.0, 3767482.0,      79.0,      79.0,       2.0);
   ( 385899.9, 3767516.3,      79.0,      79.0,       2.0);        ( 385909.3, 3767517.4,      79.0,      79.0,       2.0);
   ( 385918.6, 3767518.7,      79.0,      79.0,       2.0);        ( 385927.8, 3767520.1,      79.0,      79.0,       2.0);
   ( 385937.4, 3767521.2,      79.0,      79.0,       2.0);        ( 385889.8, 3767523.5,      79.0,      79.0,       2.0);
   ( 385899.1, 3767524.8,      79.0,      79.0,       2.0);        ( 385908.4, 3767526.0,      79.0,      79.0,       2.0);
   ( 385917.7, 3767527.3,      79.0,      79.0,       2.0);        ( 385926.9, 3767528.5,      79.0,      79.0,       2.0);
   ( 385936.1, 3767529.8,      79.0,      79.0,       2.0);        ( 385938.6, 3767513.1,      79.0,      79.0,       2.0);
   ( 385929.3, 3767511.8,      79.0,      79.0,       2.0);        ( 385920.0, 3767510.6,      79.0,      79.0,       2.0);
   ( 385910.6, 3767509.3,      79.0,      79.0,       2.0);        ( 385901.3, 3767508.1,      79.0,      79.0,       2.0);
   ( 385892.0, 3767506.8,      79.0,      79.0,       2.0);        ( 385890.9, 3767515.2,      79.0,      79.0,       2.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: F:\WD Passport\4th and Hewitt\metdata\CELA_v9.SFC Met Version: 16216
Profile file: F:\WD Passport\4th and Hewitt\metdata\CELA_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2010 Year: 2010

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
10	01	01	1	01	-33.0	0.331	-9.000	-9.000	-999.	456.	120.2	0.56	0.86	1.00	3.10	38.	21.3	284.9	17.7
10	01	01	1	02	-26.9	0.285	-9.000	-9.000	-999.	367.	89.6	0.56	0.86	1.00	2.70	38.	21.3	284.2	17.7
10	01	01	1	03	-38.6	0.387	-9.000	-9.000	-999.	577.	164.6	0.56	0.86	1.00	3.60	35.	21.3	284.2	17.7
10	01	01	1	04	-33.0	0.331	-9.000	-9.000	-999.	458.	120.2	0.56	0.86	1.00	3.10	34.	21.3	283.8	17.7
10	01	01	1	05	-33.1	0.331	-9.000	-9.000	-999.	456.	120.2	0.56	0.86	1.00	3.10	37.	21.3	283.1	17.7
10	01	01	1	06	-38.7	0.387	-9.000	-9.000	-999.	577.	164.5	0.56	0.86	1.00	3.60	24.	21.3	283.1	17.7
10	01	01	1	07	-38.6	0.387	-9.000	-9.000	-999.	577.	164.5	0.56	0.86	1.00	3.60	35.	21.3	283.8	17.7
10	01	01	1	08	-29.6	0.435	-9.000	-9.000	-999.	688.	251.8	0.56	0.86	0.55	4.00	35.	21.3	283.8	17.7
10	01	01	1	09	30.0	0.426	0.367	0.008	59.	666.	-232.0	0.56	0.86	0.32	3.60	38.	21.3	286.4	17.7
10	01	01	1	10	72.3	0.359	0.629	0.008	124.	519.	-57.8	0.56	0.86	0.24	2.70	34.	21.3	290.4	17.7
10	01	01	1	11	104.4	0.321	0.998	0.008	344.	437.	-28.6	0.56	0.86	0.21	2.20	43.	21.3	292.5	17.7
10	01	01	1	12	115.1	0.283	1.156	0.008	484.	363.	-17.9	0.56	0.86	0.20	1.80	62.	21.3	295.9	17.7
10	01	01	1	13	91.4	0.406	1.130	0.008	568.	622.	-66.2	0.56	0.86	0.20	3.10	263.	21.3	294.2	17.7
10	01	01	1	14	89.3	0.316	1.168	0.008	642.	432.	-31.9	0.56	0.86	0.21	2.20	259.	21.3	294.9	17.7
10	01	01	1	15	42.6	0.295	0.928	0.008	675.	384.	-54.0	0.56	0.86	0.25	2.20	267.	21.3	294.9	17.7
10	01	01	1	16	12.0	0.359	0.609	0.008	680.	516.	-347.9	0.56	0.86	0.33	3.10	264.	21.3	292.5	17.7
10	01	01	1	17	-15.7	0.231	-9.000	-9.000	-999.	276.	70.7	0.56	0.86	0.60	2.20	288.	21.3	290.9	17.7
10	01	01	1	18	-6.1	0.135	-9.000	-9.000	-999.	124.	36.7	0.56	0.86	1.00	1.30	344.	21.3	289.2	17.7
10	01	01	1	19	-11.4	0.184	-9.000	-9.000	-999.	190.	49.2	0.56	0.86	1.00	1.80	2.	21.3	288.8	17.7
10	01	01	1	20	-17.4	0.229	-9.000	-9.000	-999.	263.	62.1	0.56	0.86	1.00	2.20	22.	21.3	288.1	17.7
10	01	01	1	21	-17.4	0.229	-9.000	-9.000	-999.	263.	61.9	0.56	0.86	1.00	2.20	40.	21.3	287.0	17.7
10	01	01	1	22	-11.5	0.184	-9.000	-9.000	-999.	190.	49.1	0.56	0.86	1.00	1.80	306.	21.3	287.0	17.7
10	01	01	1	23	-11.5	0.184	-9.000	-9.000	-999.	190.	49.0	0.56	0.86	1.00	1.80	45.	21.3	286.4	17.7
10	01	01	1	24	-11.5	0.184	-9.000	-9.000	-999.	190.	49.0	0.56	0.86	1.00	1.80	67.	21.3	286.4	17.7

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	17.7	0	-999.	-99.00	284.9	99.0	-99.00	-99.00
10	01	01	01	21.3	1	38.	3.10	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): GEN_SET ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
385780.10	3767681.80	0.00036	385790.20	3767682.50	0.00041
385800.50	3767683.40	0.00047	385810.80	3767684.30	0.00051
385780.40	3767674.10	0.00043	385790.00	3767674.80	0.00050
385800.10	3767676.20	0.00057	385810.20	3767677.00	0.00064

385769.70	3767688.70	0.00032	385779.70	3767689.30	0.00032
385790.20	3767690.20	0.00034	385800.90	3767691.10	0.00037
385811.20	3767692.10	0.00040	385821.20	3767692.80	0.00044
385820.40	3767685.50	0.00055	385819.70	3767677.60	0.00069
385818.90	3767671.10	0.00084	385809.90	3767670.50	0.00077
385799.80	3767669.40	0.00068	385790.00	3767668.40	0.00059
385780.40	3767667.50	0.00050	385771.70	3767666.30	0.00048
385771.10	3767673.60	0.00042	385770.50	3767681.50	0.00036
385884.90	3767807.80	0.00013	385879.40	3767800.60	0.00013
385874.00	3767793.70	0.00015	385892.00	3767802.70	0.00014
385886.60	3767795.60	0.00013	385881.10	3767788.80	0.00015
385899.70	3767797.60	0.00015	385894.30	3767790.50	0.00015
385888.60	3767783.20	0.00015	385883.00	3767820.00	0.00011
385890.20	3767814.90	0.00012	385897.40	3767809.70	0.00014
385904.60	3767804.60	0.00018	385911.80	3767799.40	0.00026
385906.50	3767792.40	0.00021	385901.20	3767785.30	0.00017
385895.90	3767778.30	0.00017	385890.60	3767771.20	0.00016
385883.70	3767776.40	0.00015	385876.30	3767781.60	0.00016
385869.20	3767786.80	0.00015	385862.00	3767792.00	0.00015
385867.30	3767799.00	0.00015	385872.50	3767806.00	0.00014
385877.80	3767813.00	0.00012	386001.40	3767582.70	0.00163
385989.70	3767588.00	0.00208	385998.00	3767587.00	0.00178
386006.30	3767586.00	0.00163	386014.00	3767585.00	0.00151
386013.00	3767580.00	0.00144	386005.80	3767579.20	0.00150
385998.50	3767578.40	0.00158	385991.50	3767577.70	0.00167
385990.70	3767582.90	0.00181	386015.20	3767473.50	0.00039
386016.70	3767463.20	0.00037	386018.20	3767453.80	0.00036
386019.50	3767443.90	0.00034	386020.60	3767434.10	0.00033
386021.90	3767424.70	0.00031	386023.00	3767414.40	0.00030
386024.50	3767405.00	0.00029	386024.50	3767475.00	0.00039
386026.00	3767464.50	0.00038	386027.40	3767454.90	0.00036
386028.70	3767445.00	0.00035	386030.00	3767435.60	0.00034
386031.30	3767425.90	0.00033	386032.60	3767415.50	0.00031
386033.70	3767406.10	0.00030	386034.30	3767476.20	0.00039
386035.60	3767465.50	0.00038	386036.70	3767456.10	0.00036
386038.20	3767446.30	0.00034	386039.60	3767436.60	0.00034

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): GEN_SET ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
386040.90	3767426.80	0.00033	386042.20	3767416.70	0.00032
386043.50	3767407.50	0.00031	386005.00	3767482.00	0.00040
386014.10	3767483.30	0.00041	386023.50	3767484.60	0.00041
386033.20	3767486.10	0.00040	386042.00	3767487.00	0.00038
386043.40	3767477.20	0.00038	386044.70	3767467.40	0.00037
386046.10	3767457.60	0.00036	386047.40	3767447.80	0.00034
386048.80	3767438.10	0.00033	386050.10	3767428.30	0.00032
386051.50	3767418.50	0.00032	386052.80	3767408.70	0.00031
386054.20	3767398.90	0.00030	386044.90	3767397.70	0.00030
386035.60	3767396.50	0.00030	386026.30	3767395.30	0.00028
386017.00	3767394.10	0.00026	386015.70	3767403.90	0.00027
386014.30	3767413.60	0.00029	386013.00	3767423.40	0.00030
386011.70	3767433.20	0.00032	386010.30	3767442.90	0.00033
386009.00	3767452.70	0.00035	386007.70	3767462.50	0.00037
386006.30	3767472.20	0.00039	386005.00	3767482.00	0.00040
385899.90	3767516.30	0.00956	385909.30	3767517.40	0.00813
385918.60	3767518.70	0.00664	385927.80	3767520.10	0.00519
385937.40	3767521.20	0.00372	385889.80	3767523.50	0.01189
385899.10	3767524.80	0.01092	385908.40	3767526.00	0.00958
385917.70	3767527.30	0.00806	385926.90	3767528.50	0.00646
385936.10	3767529.80	0.00493	385938.60	3767513.10	0.00275
385929.30	3767511.80	0.00390	385920.00	3767510.60	0.00523

```
        385910.60   3767509.30       0.00661                         385901.30   3767508.10       0.00791
        385892.00   3767506.80       0.00873                         385890.90   3767515.20       0.01060
```



```
                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***


                                    ** CONC OF OTHER    IN MICROGRAMS/M**3                                  **

                                                                                                                NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.01189 AT (  385889.80,  3767523.50,    79.00,    79.00,    2.00)  DC
          2ND HIGHEST VALUE IS       0.01092 AT (  385899.10,  3767524.80,    79.00,    79.00,    2.00)  DC
          3RD HIGHEST VALUE IS       0.01060 AT (  385890.90,  3767515.20,    79.00,    79.00,    2.00)  DC
          4TH HIGHEST VALUE IS       0.00958 AT (  385908.40,  3767526.00,    79.00,    79.00,    2.00)  DC
          5TH HIGHEST VALUE IS       0.00956 AT (  385899.90,  3767516.30,    79.00,    79.00,    2.00)  DC
          6TH HIGHEST VALUE IS       0.00873 AT (  385892.00,  3767506.80,    79.00,    79.00,    2.00)  DC
          7TH HIGHEST VALUE IS       0.00813 AT (  385909.30,  3767517.40,    79.00,    79.00,    2.00)  DC
          8TH HIGHEST VALUE IS       0.00806 AT (  385917.70,  3767527.30,    79.00,    79.00,    2.00)  DC
          9TH HIGHEST VALUE IS       0.00791 AT (  385901.30,  3767508.10,    79.00,    79.00,    2.00)  DC
         10TH HIGHEST VALUE IS       0.00664 AT (  385918.60,  3767518.70,    79.00,    79.00,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```



```
 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           5 Warning Message(s)
 A Total of         808 Informational Message(s)

 A Total of       43824 Hours Were Processed

 A Total of           4 Calm Hours Identified

 A Total of         804 Missing Hours Identified (  1.83 Percent)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 SO W320      20        PPARM: Input Parameter May Be Out-of-Range for Parameter           VS
 ME W186     195       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     195       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:      14010101
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:    2 year gap

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

```
F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

                              BPIP (Dated: 04274)
 DATE :  8/28/2022
 TIME : 17:25: 2
 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

 ============================
 BPIP PROCESSING INFORMATION:
 ============================

   The P  flag has been set for preparing downwash related data
          for a model run utilizing the PRIME algorithm.

   Inputs entered in METERS     will be converted to meters using
    a conversion factor of    1.0000.  Output will be in meters.

   The UTMP variable is set to UTMY.  The input is assumed to be in
     UTM coordinates.  BPIP will move the UTM origin to the first pair of
     UTM coordinates read.  The UTM coordinates of the new origin will
     be subtracted from all the other UTM coordinates entered to form
     this new local coordinate system.

   Plant north is set to   0.00 degrees with respect to True North.

 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28

               PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
                        (Output Units: meters)

                                 Stack-Building            Preliminary*
        Stack        Stack     Base Elevation    GEP**   GEP Stack
        Name         Height    Differences       EQN1    Height Value

       GEN_SET        88.53         0.00       200.41       200.41

   * Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP
     Technical Support Document.  Determinant 3 may be investigated for
     additional stack height credit.  Final values result after
     Determinant 3 has been taken into consideration.
  ** Results were derived from Equation 1 on page 6 of GEP Technical
     Support Document.  Values have been adjusted for any stack-building
     base elevation differences.

     Note:  Criteria for determining stack heights for modeling emission
     limitations for a source can be found in Table 3.1 of the
     GEP Technical Support Document.

                              BPIP (Dated: 04274)
 DATE :  8/28/2022
 TIME : 17:25: 2

 F:\WD Passport\4th and Hewitt\model\SETUP_2.BST BEESTWin BPIP-Prime Files 8/28
  BPIP output is in meters

     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
     SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
```

```
SO BUILDHGT GEN_SET        83.52   83.52   83.52   83.52   83.52   83.52
SO BUILDWID GEN_SET        55.88   64.47   71.09   75.56   77.73   77.53
SO BUILDWID GEN_SET        74.98   70.16   72.10   75.85   77.29   76.39
SO BUILDWID GEN_SET        73.17   67.72   60.21   50.88   40.00   45.60
SO BUILDWID GEN_SET        55.88   64.47   71.09   75.56   77.73   77.53
SO BUILDWID GEN_SET        74.98   70.16   72.10   75.85   77.29   76.39
SO BUILDWID GEN_SET        73.17   67.72   60.21   50.88   40.00   45.60
SO BUILDLEN GEN_SET        75.85   77.29   76.39   73.17   67.72   60.21
SO BUILDLEN GEN_SET        50.88   40.00   45.60   55.88   64.47   71.09
SO BUILDLEN GEN_SET        75.56   77.73   77.53   74.98   70.16   72.10
SO BUILDLEN GEN_SET        75.85   77.29   76.39   73.17   67.72   60.21
SO BUILDLEN GEN_SET        50.88   40.00   45.60   55.88   64.47   71.09
SO BUILDLEN GEN_SET        75.56   77.73   77.53   74.98   70.16   72.10
SO XBADJ    GEN_SET       -30.14  -31.37  -31.65  -30.96  -29.34  -26.82
SO XBADJ    GEN_SET       -23.48  -19.44  -23.70  -30.23  -35.85  -40.37
SO XBADJ    GEN_SET       -43.67  -45.65  -46.23  -45.41  -43.21  -44.10
SO XBADJ    GEN_SET       -45.70  -45.92  -44.74  -42.20  -38.38  -33.39
SO XBADJ    GEN_SET       -27.39  -20.56  -21.90  -25.65  -28.62  -30.72
SO XBADJ    GEN_SET       -31.88  -32.08  -31.30  -29.57  -26.95  -28.00
SO YBADJ    GEN_SET         2.29    3.62    4.83    5.90    6.78    7.46
SO YBADJ    GEN_SET         7.92    8.13    8.05    7.78    7.27    6.55
SO YBADJ    GEN_SET         5.62    4.52    3.29    1.95    0.56   -0.90
SO YBADJ    GEN_SET        -2.29   -3.62   -4.83   -5.90   -6.78   -7.46
SO YBADJ    GEN_SET        -7.92   -8.13   -8.05   -7.78   -7.27   -6.55
SO YBADJ    GEN_SET        -5.62   -4.52   -3.29   -1.95   -0.56    0.90
```

ATTACHMENT D

List of References

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2. California Air Resources Board, 1997. *Methods for Assessing Area Source Emissions in California: Volume III* (Revised).

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22. South Coast Air Quality Management District, 2022. Modeling Guidance for AERMOD. Website: www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance#MetData.

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26. United States Environmental Protection Agency, Office of Research and Development, 1997. *Exposure Factors Handbook*.

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Attachment B

Justification/Reason for Appeal Letter from the Supporters Alliance for Environmental Responsibility (SAFER) (dated September 11, 2023)

Justification/Reason for Appeal

4th and Hewitt Project

VTTM No. 74745; ENV-2017-470-EIR

I. REASON FOR THE APPEAL

Supporters Alliance for Environmental Responsibility ("SAFER") appeals the Advisory Agency's approval of the Vesting Tentative Tract Map (VTT-74745) for the 4th and Hewitt Project (CPC-2017-469-GPA-VZCHD-MCUP-SPR; ENV-2017-470-EIR) ("Project"). The Vesting Tentative Tract Map approval is invalid because it is based upon incorrect findings. In particular, the Environmental Impact Report ("EIR") prepared for the Project fails to comply with the California Environmental Quality Act ("CEQA"). The City of Los Angeles ("City") must set aside all Project approvals and circulate a revised EIR prior to considering approvals for the Project.

II. SPECIFICALLY THE POINTS AT ISSUE

Specifically, for the reasons described in the attached comment letter dated August 15, 2023, the EIR fails to adequately analyze the Project's environmental impacts and fails to impose all feasible mitigation measures to reduce the Project's impacts including, but not limited to, impacts to air quality, health, greenhouse gases, and biological resources. The Project also fails to include a Statement of Overriding Considerations (SOC) that the project's economic benefits outweigh its environmental costs, including the consideration of employment opportunities for highly skilled workers. Additionally, the Project does not comply with the City's zoning code. A revised EIR must be prepared to remedy these issues.

Because the EIR prepared for the Project fails to comply with CEQA, the approval of the Project's Vesting Tentative Tract Map was in error. Proper CEQA review must be complete *before* the City approves the Project's entitlements. (*Orinda Ass'n. v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171 ["No agency may approve a project subject to CEQA until the entire CEQA process is completed and the overall project is lawfully approved."].) Additionally, by failing to properly conduct environmental review under CEQA, the City lacks substantial evidence to support its findings for the Vesting Tentative Tract Map approvals. The City must fully comply with CEQA prior to *any approvals* in furtherance of the Project.

III. HOW YOU ARE AGGRIEVED BY THE DECISION

Members of appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

IV. WHY YOU BELIEVE THE DECISION-MAKER ERRED OR ABUSED THEIR DISCRETION

The Advisory Agency adopted the EIR and approved a Vesting Tentative Tract Map for the Project despite a lack of substantial evidence that impacts would be less than significant and a failure to impose all feasible mitigation measures to reduce the Project's impacts. The Department of City Planning should therefore have prepared a revised EIR and recirculated the revised document prior to consideration of approvals for the Project. The City is not permitted to make any approvals in furtherance of the Project until the EIR’s deficiencies are remedied.

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
1939 Harrison Street, Ste. 150
Oakland, CA 94612
www.lozeaudrury.com
Marjan@lozeaudrury.com

August 15, 2023
Via Email

Hearing Officer
Kathleen King, City Planner
City of Los Angeles
221 North Figueroa Street
Los Angeles, CA 90012
Kathleen.king@lacity.org

Re: Comment on Final Environmental Impact Report for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), August 16, 2023 Hearing Officer Hearing – Agenda Item No. 1

Dear Ms. King,

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Final Environmental Impact Report ("FEIR" or "Final EIR") prepared for the 4th and Hewitt Project (CPC-2017-469-GPA-VZC-HD-MCUP-SPR; ENV-2017-470-EIR), proposed by the Applicant LIG – 900, 910 and 926 E. 4th St., 405-411 S. Hewitt St., LLC (the "Applicant"), including all actions related or referring to the 18-story office building that would provide a total of 343,925 square feet of floor area, and three subterranean levels of parking (SCH No. 2017091054) (the "Project").

After reviewing the FEIR, SAFER concludes that it fails as an informative document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, fails to consider the aerosphere as avian habitat, and fails to support its statement of overriding considerations with substantial evidence. SAFER therefore respectfully requests that the City of Los Angeles ("City") Department of City Planning deny approval of the FEIR, and to instead direct the City's Planning Division staff to address these shortcomings in a revised Environmental Impact Report ("REIR"), to be recirculated in accordance with the public review provisions of the California environmental Quality Act ("CEQA"). Public Resources Code, section 21000 et. seq.

SAFER's review of the EIR has been assisted by air quality experts Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D., of the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE") (CV and comments attached as Exhibit A); expert wildlife biologist Dr. Shawn Smallwood, PhD (comments attached as Exhibit B); and indoor air quality expert and Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH (CV and comments attached as Exhibit C).

PROJECT DESCRIPTION

The Project, located at 900-926 E. 4th Street; 406-414 S. Cloyton St.; and 405-423 S. Hewitt St., proposes to demolish an existing building, two storage/garage buildings, and surface parking lots. In its place, the Project will allow for the construction of an 18-story office building comprised of 8,149 square feet of ground floor restaurant space, 308,527 square feet of office, 16,294 square feet of covered exterior employee common areas, and a 3,500 square-foot ground floor courtyard accessible from Colyton Street.

The Project will include a total of 343,925 square feet of gross floor area, comprised of an existing 7,800 square-foot (existing Architecture and Design Museum) building and a new 336,125 square-foot office building, which would include approximately 8,149 square feet of ground floor restaurant space, 311,682 square feet of commercial office space, 16,294 square feet of office exterior common areas, and a height of 292 feet to the top of the parapet and a maximum height of 297 feet. Vehicle parking would be provided within three subterranean levels and four levels of above grade parking, and the ground floor would also include 112 bicycle parking spaces.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See*, e.g.* Pub. Res. Code § 21100). The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652). "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 109).

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 CCR § 15002(a)(1)). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. ("*Goleta Valley*").

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *Goleta Valley*, 52 Cal.3d at 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (14 CCR §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it

has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B)). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal. App. 4th at 1355). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

(*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510).

"Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516). Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" (*Id.*). "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*). Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence. (*Id.* at 514.)

As applied this Project, the FEIR abjectly fails to meet these legal standards, as it is riddled with conclusory statements lacking any factual support or analysis. SAFER finds that the FEIR prepared for the Project is inadequate for the reasons set forth below.

DISCUSSION

I. Substantial Evidence Shows that the Project Will Have Significant Air Quality and Greenhouse Gas Impacts.

Air quality experts Matt Hagemann, P.G., C.Hg. and Dr. Paul E. Rosenfeld, PhD of the environmental consulting firm SWAPE reviewed the EIR and concluded that the Project will have significant air quality and greenhouse gas impacts. SWAPE's comments and expert CVs are attached as Exhibit A.

a. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Air Quality Impact

The Project's estimated emissions are underestimated. SWAPE reviewed the FEIR's CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs [were] not consistent with [the] information disclosed in the DEIR." (Ex. A., p. 2.).

SWAPE found that the EIR presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (*Id*., p. 3.) This is notable because the CalEEMod User Guide explicitly requires the Project to justify any changes to model defaults. (*Id*., p. 4). In the absence of any justification, the EIR "fails to provide substantial evidence to support the revised *individual* construction phase lengths." (*Id*., p. 3) (emph. added). As SWAPE explains, "[b]y including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance." (*Id*.) Therefore, the model provided for the Project "may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (*Id*., p. 4).

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14 CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to

be the first step toward future development' or 'when the reviewed project legally compels or practically presumes completion of another action.'" *East Sacramento Partnerships for a Livable City v. City of Sacramento* (2016) 5 Cal.App.5th 281, 293 (citing *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1223). "There is no dispute that CEQA forbids 'piecemeal' review of the significant environmental impacts of a project." *Berkeley Jets* at 1358. As such, the EIR lacks substantial evidence to show that the Project will have a less than significant air quality impact.

b. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Health Risk Impact

The EIR fails to address potential health-related impacts resulting from the Project's likely air emissions. This is problematic because operation of construction equipment during construction of the proposed Project, as well as daily truck trips during future operations, will release diesel particulate matter ("DPM") emissions into the air, affecting local and regional air quality. DPM is a known human carcinogen which poses unique health risks to nearby sensitive receptors. Importantly, CEQA requires a quantified analysis to determine whether a Project's toxic air contaminant ("TAC") emissions—including DPM emissions—will have potentially adverse impacts on human health.

Current guidance by the Office of Environmental Health Hazard Assessment ("OEHHA"), the agency responsible for setting statewide standards to measure health risks under CEQA, recommends that a quantified Health Risk Assessment ("HRA") be prepared to evaluate potential cancer risks for any short-term construction project lasting more than two months, and for the lifetime of any long-term project lasting more than six months. OEHHA guidance also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk affecting the maximally exposed individual resident ("MEIR") near a proposed Project site. (*Id*., p. 10.) A project's imposition of health risks upon impacted MEIRs is further evaluated according to the sensitive receptor's age and pregnancy status. (*Id*., p. 14.)

Construction of the proposed Project is expected to last 30 months, and it is reasonable to assume, in the absence of any contrary assertion by the EIR, that future building operations will continue on the site for at least 30 years. Therefore, as SWAPE observes, "These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation." (*Id*., p. 9.)

Contrary to this established regulatory framework, however, the FEIR failed to prepare a quantified HRA for the Project's planned construction and operations. As such, the FEIR fails to present substantial evidence showing that the Project will not have a significant health impact, despite known health risks that will directly result from the Project's construction-related DPM emissions, its generation of hundreds of daily vehicle trips, and its projected TAC emissions that will impact local air quality during construction and future operations. (*Id*., pp. 8-9.) The FEIR additionally "fails to evaluate the combined lifetime cancer risk as a result of Project

construction and operation together" as it compares to the South Coast Air Quality Management District's ("SCAQMD") established significance threshold of 10 per million. (*Id*., p. 9.)

c. The FEIR Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Greenhouse Gas Impact

SWAPE rebuts the FEIR's unfounded assertions that the Project's greenhouse gas ("GHG") emissions will be less than significant. (*Id*., p. 11.). Specifically, SWAPE concludes that the Project's FEIR analysis and conclusion regarding the less-than-significant GHG impact is incorrect because the FEIR's quantitative GHG analysis relies on a flawed air model, the air model indicates a potentially significant GHG impact, and the FEIR fails to provide the CalEEMod model for the "No Action Taken" (NAT) scenario. (*Id*.).

First, SWAPE explains the FEIR's quantitative analysis is unsubstantiated because, as explained earlier, several input values are inconsistent with information provided in the FEIR. As SWAPE indicates, "the models may underestimate the Project's emissions, and the FEIR's quantitative analysis should not be relied upon to determine Project significance." Furthermore, in comparing the Project's GHG emissions to the SCAQMD's 2035 service population efficiency target threshold, SWAPE found that "the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact," thereby emphasizing how reliance on the FEIR's less-than-significant GHG impact conclusion to be improper.

Lastly, SWAPE found that the FEIR's estimate that the Project would have an 18% reduction of GHG emissions compared to the NAT scenario is unreliable because the FEIR "fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario." (*Id*., p. 13). As such, the FEIR's conclusion is not supported by substantial evidence and should be deemed invalid. Instead, before any approval on this Project is made, a revised FEIR should be prepared and recirculated to include an updated GHG analysis and incorporate additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels." (*Id*., p. 11-13.).

II. The Project Fails to Present Substantial Evidence Showing that the Project Will Have a Less Than Significant Biological Resources Impact.

Expert Wildlife Biologist, Dr. Shawn Smallwood, PhD, has reviewed the FEIR and all relevant documents regarding the Project's biological impacts, notably on avian species. Based on this review, Dr. Smallwood concludes that the Project will likely impact bird species flying along the Los Angeles River. Dr. Smallwood is a leading expert on wildlife biology and has published extensively on the topic. Dr. Smallwood's CV and expert comments are attached as Exhibit B.

As a preliminary matter, Dr. Smallwood highlights the Project's failure to adequately analyze the Project's impact on wildlife movement. Given the Project's close proximity to the Los Angeles River and the newly constructed 6th street viaduct and the future green space/parks

system in underneath the bridge, as well as the likelihood of bird flight paths passing through the Bear Divide, "ample evidence is available that the site is important to wildlife in the region." (*Id*., p. 8). As such, the Project's failure to adequately assessment and analyze issues that the Project may raise on biological impacts underlines how the FEIR fails as an informational document.

In particular, Dr. Smallwood explains how the Project's height and proposed expansive windows on its façade come into direct conflict with the airspace normally used by birds. "Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors." (*Id*.). Additionally, bird collision issues are not time-restricted, especially since birds fly during both day and night. Dr. Smallwood expresses concern regarding the Project's potential to increase nighttime bird collisions, explaining how "[s] uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment." (*Id*., p. 6).

Given how birds protected under the Migratory Bird Treaty Act and California Migratory Bird Protection Act constitute the vast majority of the deaths along the Bear Divide, Dr. Smallwood opines that the Project's failure to neither analyze nor adequately provide mitigation measures to reduce bird collisions and deaths would result in a potentially significant biological impact. Therefore, a Final EIR "should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the Project." (*Id*., p. 11).

III. Substantial Evidence Shows That the Project Will Likely Have Significant Adverse Indoor Air Quality and Health Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the EIR and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future employees working at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann's CV and expert comments are attached as Exhibit C.

a. Future Employees Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. C., p. 2.)

Mr. Offermann explains that many composite wood products typically used in building materials and furnishings commonly found in offices, warehouses, residences, and hotels contain

formaldehyde-based glues which off-gas formaldehyde over a very long period of time. He states that "[t]he primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (*Id*., pp. 2-3.)

Mr. Offermann concludes that future full-time employees working at the proposed Project will be exposed to a cancer risk from formaldehyde of approximately 17.7 per million, ***even assuming*** that all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (*Id*., p. 4.) This risk level thereby exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million.

The California Supreme Court has emphasized the importance of air district significance thresholds in providing substantial evidence of a significant adverse environmental impact under CEQA. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 ["As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact."].) Since Mr. Offermann's expert evidence demonstrates that the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (See *San Mateo Gardens*, *supra*, 1 Cal.5th at 958.)

The EIR's failure to address the Project's formaldehyde emissions is also 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*"). In that case, the Supreme Court held that potentially adverse impacts to future users and residents resulting from a Project's environmental impacts must be addressed by the CEQA review process.

The issue before the Court in *CBIA* was whether an air district could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of existing environmental conditions that occurred near a project site. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects *on a project* (*CBIA*, 62 Cal.4th at 385-88). However, it ruled that agencies must still consider the extent to which a project may *exacerbate existing environmental conditions* at or near a project site, insofar as those conditions may affect the project's future users or residents. (*Id*. at 388.) Specifically, the Supreme Court wrote, 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 387 [emph. added].)

The Supreme Court's reasoning in *CBIA* is well-grounded in CEQA's statutory language. CEQA expressly identifies a project's effects on human beings as an effect that must be addressed as part of 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 386.) 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 future employees of the Project are human beings. It is therefore unquestionable that the health and safety of those workers is subject to CEQA's environmental safeguards.

b. The EIR Must Be Revised to Analyze and Mitigate the Project's Significant Adverse Indoor Air Quality and Health Impacts.

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 proposed Project will have significant impacts on health and air quality by emitting cancer-causing levels of formaldehyde into the air that will expose future employees working at the Project site to cancer risks potentially in excess of SCAQMD's significance threshold of 10 per million.

The carcinogenic formaldehyde emissions which Mr. Offermann identified are not an existing environmental condition. To the contrary, those emissions will be caused *by the Project* and will result in adverse effects on the environment. If built without appropriate mitigation, the Project will slowly emit formaldehyde over long periods of time to levels that pose significant direct and cumulative health risks to Project residents. Mr. Offermann underlines how "the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifie[d] an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air." (*Id*., pp. 4-5).

As noted above, the Supreme Court in *CBIA* expressly found that a Project's environmental impacts, including those that affect a "project's users and residents," must be addressed by the CEQA review process. Therefore, an EIR must be prepared to identify existing levels of TAC emissions near the Project site – such as those resulting from heavy daily truck traffic along the neighboring I-5 and I-10 freeways and corresponding industrial neighborhoods close to the Project site – and the impact that those will have on the health of future employees. Moreover, an EIR must evaluate the *cumulative adverse health effects* that will affect future employees as a result of the Project's indoor formaldehyde emissions *and* existing off-site TAC emissions.

Mr. Offermann concludes that these significant impacts should be analyzed in an EIR and that additional mitigation measures should be imposed to reduce the significant health risks that will result from indoor formaldehyde emissions. (*Id*., pp. 11-13.). Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and

health impacts which the EIR has failed to address. Therefore, the City must therefore prepare a REIR to fully evaluate and mitigate these impacts to the Project's future employees.

IV. The Project Must Implement Further Mitigation Measures to Reduce the Project's Significant Air Quality, Health Risk, Greenhouse Gas, and Biological Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564). Beyond its analysis of the FEIR's numerous analytical flaws, SWAPE, Dr. Smallwood, and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may be feasibly implemented to reduce the Project's significant air quality, human health, greenhouse gas, and biological impacts. This includes, as SWAPE suggests, considering the applicability of "incorporating solar power system into the Project design." (Ex. A, p. 17). Otherwise, other feasible measures include, but are not limited to, the following:

For issues related to air quality impacts:

- Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit;
- The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
    - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%
    - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
    - Nonroad diesel engines on site shall be Tier 2 or higher.
    - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
    - Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.

- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

For issues related to indoor air quality impacts:

- Imposing a requirement that the Applicant install air filters throughout the building; and
- Commit to using only composite wood materials that are made with CARB approved no-added formaldehyde (NAF) resins, or ultra-low emitting formaldehyde (ULEF) resins, for all of the buildings' interior spaces.

For issues related to GHG impacts:

- Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible;
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions;
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies;
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

For issues related to biological impacts:

- At a minimum, the Project should adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco, which includes adopting the following actions:
- 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; and
- funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care.

SAFER has presented substantial evidence that feasible mitigation measures exist to further reduce the Project's adverse impacts. Therefore, a revised FEIR must be developed to comply with CEQA by further analyzing the Project's likely adverse impacts and considering implementation of each of these proposed measures. The revised FEIR should "demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible." (*Id.*, p. 17.) Until

such consideration of the feasibility of incorporating these mitigation measures has been analyzed, the Project should not be approved.

V. The FEIR Fails to Sufficiently Justify a Statement of Overriding Considerations.

The Project would result in significant and unavoidable impacts relative to specific noise impacts, including, off-road construction equipment noise, composite construction noise levels, off-road construction activity vibration (building damage), onroad construction vehicle vibration (human annoyance), cumulative off-road construction equipment noise, cumulative composite construction noise levels, and cumulative onroad construction vehicle vibration (human annoyance). (DEIR, p. I-11). As a result, the City will need to adopt a statement of overriding considerations. Under CEQA, when an agency approves a project with significant environmental impacts that will not be fully mitigated, it must adopt a "statement of overriding considerations" finding that, because of the project's overriding benefits, it is approving the project despite its environmental harm. (14 Cal.Code Regs. §15043; Pub. Res. Code §21081(B); Sierra Club v. Contra Costa County (1992) 10 Cal.App.4th 1212, 1222). A statement of overriding considerations expresses the "larger, more general reasons for approving the project, such as the need to create new jobs, provide housing, generate taxes and the like." (*Concerned Citizens of South Central LA v. Los Angeles Unif. Sch. Dist*. (1994) 24 Cal.App.4th 826, 847).

A statement of overriding considerations must be supported by substantial evidence in the record. (14 Cal. Code Regs. §15093(b); *Sierra Club v. Contra Costa Co*. (1992) 10 Cal.App.4th 1212, 1223)). The agency must make "a fully informed and publicly disclosed" decision that "specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project." (15 Cal. Code Regs. §15043(b)). As with all findings, the agency must present an explanation to supply the logical steps between the ultimate finding and the facts in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515).

Key among the findings that the lead agency must make is that:

> "Specific economic, legal, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report…[and that those] benefits of the project outweigh the significant effects on the environment."

(Pub. Res. Code §21081(a)(3), (b)). Thus, the City must make specific findings, supported by substantial evidence, concerning both the environmental impacts of the Project, and the economic benefits including "the provision of employment opportunities for highly trained workers" created. The EIR and its supporting documents fails to provide substantial evidence to support a statement of overriding considerations.

In short, the City cannot find that the economic benefits of the Project outweigh the environmental costs if it does not know what the economic benefits will be. A revised EIR, Fiscal Analysis and Statement of Overriding Considerations is required to provide this information.

CONCLUSION

In conclusion, SAFER believes that the FEIR fails as an informational document, fails to implement all feasible mitigation measures to reduce the Project's adverse environmental impacts, and fails to support its statement of overriding considerations with substantial evidence. In contrast, SAFER has presented substantial evidence of the EIR's various shortcomings and its corresponding failure to adequately disclose or mitigate the Project's likely significant adverse impacts. For these reasons, we respectfully request that the Planning Commission recommend that the City Council deny approval of the FEIR and instead direct City staff to prepare a revised FEIR in accordance with CEQA's public review provisions.

Sincerely,

Marjan Abubo
LOZEAU DRURY LLP

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

August 11, 2023

Marjan Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the 4th and Hewitt Offices Project (SCH No. 2017091054)

Dear Mr. Abubo,

We have reviewed the Final Environmental Impact Report ("FEIR") for the 4th and Hewitt Offices Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to demolish the 7,030-square-foot ("SF") existing building and construct a 336,125-SF office building as well as a 39,751-SF parking lot on the 1.31-acre site.

Our review concludes that the FEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The FEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. III-14). [1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality

[1] "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/download-model.

Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality Impact Analysis ("AQIA") as Appendix B to the FEIR, we found that several model inputs are not consistent with information disclosed in the FEIR and associated documents. As a result, the Project's construction-related and operational emissions may be underestimated. A revised EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	4.00	70.00
tblConstructionPhase	NumDays	200.00	547.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	NumDays	10.00	70.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 8, 9, 42, 43, 76, 77):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	12/5/2022	1/6/2023	5	25
2	Site Preparation	Site Preparation	12/31/2022	12/30/2022	5	0
3	Grading	Grading	1/9/2023	4/14/2023	5	70
4	Building Construction	Building Construction	4/17/2023	5/20/2025	5	547
5	Paving	Paving	2/5/2025	5/13/2025	5	70
6	Architectural Coating	Architectural Coating	2/5/2025	5/13/2025	5	70

As demonstrated in the excerpt above, the demolition phase is increased by 25%, from the default value of 20 to 25 days; the grading phase is increased by 1,650%, from the default value of 4 to 70 days; the building construction phase is increased by 174%, from the default value of 200 to 547 days; the paving phase is increased by 600%, from the default value of 10 to 70 days; and the architectural coating phase is increased by 600%, from the default value of 10 to 70 days. As previously mentioned, the CalEEMod

User's Guide requires any changes to model defaults be justified.[2] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "25 demo, 70 grading, 547 bldg, 70 pave and coat overlap bldg." (Appendix B, pp. 2, 36, 70).

Regarding the anticipated construction schedule, the FEIR states:

> "Construction of the Project is anticipated to begin in 2022 and would conclude in 2025, with an overall duration of 30 months" (p. III-7).

However, the revised construction schedule remains unsubstantiated. According to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [3]

As the FEIR only justifies the total construction duration of 30 months, the FEIR fails to provide substantial evidence to support the revised individual construction phase lengths. Until additional information is provided to justify the revised individual phase lengths, the model should have proportionally altered all phase lengths to match the proposed construction duration of 30 months.[4]

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[5]

> *Demolition* involves removing buildings or structures.
>
> *Site Preparation* involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
>
> *Grading* involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
>
> *Building Construction* involves the construction of the foundation, structures and buildings.
>
> *Architectural Coating* involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
>
> *Paving* involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

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[2] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.
[4] See Attachment A for proportionately altered construction schedule.
[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

By disproportionately altering and extending some of the individual construction phase lengths without proper justification, the models assume there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. The model may underestimate the peak daily emissions associated with construction and should not be relied upon to determine Project significance.

Incorrect Reduction to Acres of Grading Value

Review of the CalEEMod output files demonstrates that the "4th and Hewitt Project MXD-TDM" model includes a reduction to the default acres of grading value (see excerpt below) (Appendix B, pp. 3, 37, 71).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	70.00	1.50

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is:

> "75,200 cy export." (Appendix B, pp. 3, 37, 71).

However, this change is incorrect. According to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres are based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[7]

As stated above, the default acres of grading values are based on the model's construction equipment and the length of the grading and site preparation phases. Here, the model changes the acres of the grading to reflect the acreage of the Project site. As the dimensions of the Project site have no impact on the acres of grading value, the revised value is unsubstantiated.

The unsubstantiated change presents an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[8] By including unsubstantiated changes to the default acres of grading values, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

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[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/user's-guide, p. 9.
[8] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 9.

Unsubstantiated Changes to Solid Waste Generation Rates

Review of the CalEEMod output files demonstrates that "4th and Hewitt Project MXD-TDM" model includes several reductions to the default solid waste generation rates (see excerpt below) (Appendix B, pp. 4, 38, 72).

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	305.02	76.26
tblSolidWaste	SolidWasteGenerationRate	96.99	24.25

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is:

> "Required diversion" (Appendix FEIR-B, pp. 3, 37, 71).

Regarding the Project's solid waste generation rates, Appendix FEIR-B states:

> "Solid Waste Generation. The CalEEMod default solid waste generation inputs were adjusted to reflect a 75 percent reduction in solid waste disposal per the Assembly Bill 341 statewide goal for 2020" (Appendix B, pp. 19).

However, this justification remains insufficient. Even if the City achieves a 75% solid waste diversion rate does not guarantee the same diversion rate would be achieved locally at the Project site. Furthermore, the Exemption fails to provide substantial evidence or additional information regarding how the Project would achieve a 75% solid waste diversion rate. As such, we cannot verify the revised value.

This unsubstantiated reduction presents an issue, as CalEEMod uses the solid waste generation rate to calculate the Project's operation GHG emissions associated with the disposal of solid waste into landfills.[10] By including an unsubstantiated reduction to the default solid waste generation rate, the model may underestimate the Project's operational GHG emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the FEIR. In our updated model, we omitted the unsubstantiated reduction to the acres of grading value and the changes to solid waste generation rates; and included a proportionately adjusted construction schedule.[11]

Our updated analysis estimates that the Project's construction-related Reactive Organic Gases ("ROG") and Nitrogen Oxide ("NO_X") emissions both exceed the applicable SCAQMD thresholds of 75- and 100-

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[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 46.

[11] See Attachment B for revised air modeling.

pounds per day ("lbs/day"), respectively, as referenced by the FEIR (Appendix B, p. 10, Table 5) (see table below).

Maximum Daily Criteria Air Pollutant Emissions		
Construction Model	Construction	
	ROG	NOX
	(lbs/day)	
FEIR	48.6	44.2
SWAPE	126.1	238.0
% Increase	160%	439%
SCAQMD Threshold	**75**	**100**
Exceeds?	***Yes***	***Yes***

As demonstrated above, the Project's construction-related ROG and NO_X emissions, as estimated by SWAPE, increase by approximately 160% and 439%, respectively, and exceed the SCAQMD's applicable significance thresholds. Thus, our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the FEIR. As a result, a revised EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Diesel Particulate Matter Emissions Inadequately Evaluated

The FEIR conducts a health risk analysis ("HRA") evaluating impacts as a result of exposure to diesel particulate matter ("DPM") emissions from Project construction. Specifically, the FEIR estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project construction would be 3.1 in one million (Appendix C, p. 8, Table 4).

Table 4
Carcinogenic Risk / Maximum Exposed Residential Receptor
428 South Hewitt Street

Age Group	Risk
Third Trimester	1.1E-07
0 to 2 years	2.8E-06
2 to 9 years	1.9E-07
Total	**3.1E-06**

Note: 3.1E-06 denotes an excess case of cancer of 0.31 in one hundred thousand (100,000) individuals exposed.

However, the FEIR fails to mention the TAC impacts or evaluate the health risks associated with Project operation. The EIR's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for six reasons.

First, the FEIR's construction-related HRA is incorrect, as it relies upon emissions estimates from a flawed air model. As previously discussed, upon review of the Project's CalEEMod output files, provided in Appendix B to the FEIR, we found that several model inputs are not consistent with information

disclosed in the FEIR. Therefore, the HRA may use an underestimated DPM concentration to calculate the health risk associated with Project construction. As such, the FEIR's construction-related HRA and the resulting cancer risk should not be relied upon to determine Project significance.

Second, the equation used to calculate the Project's construction-related cancer risk is incorrect as it fails to account for Age Sensitivity Factors ("ASF"). According to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the following ASF factors should be used when calculating cancer risks for different age groups:[12]

Age Group	Age Sensitivity Factor (unitless)
3rd Trimester	10
0<2 years	10
2<9 years	3
2<16 years	3
16<30 years	1
16-70 years	1

However, the HRA uses the following equation (see excerpt below) (Appendix C, p. 7):

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \text{ x } FAH$$

As demonstrated above, the equation used for the FEIR's construction-related HRA fails to include ASFs and is therefore incorrect. Instead, per OEHHA guidance, the FEIR should have used the following equation:[13]

A. Equation 8.2.4 A: $\boxed{RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH}$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor (mg/kg-day^{-1})
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.

[13] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

By failing to include ASF values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis correctly accounting for ASF values.

Third, the FEIR's construction-related HRA uses an underestimated Fraction of Time At Home ("FAH") value for the third trimester and infant receptors. Specifically, the HRA states:

> "The above inhalation dose estimates and residential fractional time adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages associated with the reported exposure durations" (p. 7).

As demonstrated above, the construction-related HRA relies on an FAH value of 0.85 for third trimester and infant receptors. However, these FAH values are incorrect, as SCAQMD guidance clearly states:

> "For Tiers 1, 2, and 3 screening purposes, the FAH is assumed to be 1 for ages third trimester to 16. As a default, children are assumed to attend a daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area affected by the facility's emissions. People older than age 16 are assumed to spend only 73 percent of their time at home."[14]

As such, per SCAQMD guidance, the HRA should have used an FAH of 1 for the third trimester and infant receptors. Thus, by utilizing incorrect FAH values, the FEIR's construction-related HRA underestimates the cancer risk posed to nearby, existing sensitive receptors as a result of Project construction. As such, a revised EIR should be prepared to include an updated analysis using correct FAH values.

Fourth, by failing to prepare a quantified operational HRA, the Project is inconsistent with CEQA's requirement to make "a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."[15] According to the FEIR, operation of the Project is anticipated to generate increased daily vehicle trips, which would generate additional exhaust emissions and expose nearby sensitive receptors to DPM emissions (p. III-16). However, the FEIR fails to evaluate the TAC emissions associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the Project is inconsistent with CEQA's requirement to correlate the Project-generated emissions with potential adverse impacts on human health.

Fifth, as previously discussed, OEHHA, the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types

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[14] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[15] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[16] Furthermore, according to OEHHA:

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[17]

OEHHA also recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk at the maximally exposed individual resident ("MEIR").[18] While the FEIR fails to provide the expected lifetime of the proposed Project, we can reasonably assume that the Project would operate for at least 30 years, if not more. Thus, operation of the Project exceeds the 2-month and 6-month requirements set forth by OEHHA and should be evaluated for the entire 30-year residential exposure duration, as indicated by OEHHA guidance. These recommendations reflect the most recent state health risk policies, and as such, a revised EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from DPM emissions generated during Project operation.

Sixth, while the FEIR includes an HRA evaluating the Project's health risk impacts to nearby, existing receptors as a result of Project construction, the FEIR fails to evaluate the combined lifetime cancer risk as a result of Project construction and operation together. According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[19] However, the FEIR's HRA fails to sum each age bin to evaluate the combined cancer risk over the course of the Project's total construction and operation. This is incorrect, and such an updated analysis should be prepared to quantify and sum the entirety of the Project's construction and operational health risks together to compare to the SCAQMD threshold of 10 in one million.

Failure to Identify a Significant Health Risk Impact

As previously discussed, the FEIR estimates that the maximum individual cancer risk posed to nearby, existing sensitive receptors as a result of Project construction would be 3.1 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (Appendix C, p. 8, Table 4) However, as previously discussed, the FEIR fails to incorporate ASF values in the calculation of the cancer risk. As such, the Project's cancer risk estimate is underestimated and should not be relied upon to determine Project significance.

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[16] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

[17] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

[18] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 2-4.

[19] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4

In order to accurately evaluate the FEIR's construction-related cancer risk, we used the following equation which includes ASFs:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

As previously discussed, according to OEHHA guidance, the appropriate ASF value for third trimester and infant receptors is 10. When correctly accounting for ASFs, the FEIR's estimated cancer risk increases to 31 in one million (see table below).

Project Construction Cancer Risk

Source	Cancer Risk (in one million)
FEIR (without ASFs)	3.1
FEIR (with ASFs)	31.0
SCAQMD Threshold	**10**
Exceeds?	***Yes***

As demonstrated in the table above, the resulting cancer risk estimate exceeds the SCAQMD threshold of 10 in one million, thus indicating a potentially significant health risk impact not previously identified or addressed by the FEIR. As such, the FEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. According to CEQA Guidelines § 15096(g)(2):

> "When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

As a result, the proposed Project should not be approved until all feasible mitigation has been considered and incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." As such, the FEIR fails to identify and adequately mitigate the Project's significant health risk impact and a revised EIR should be prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The FEIR estimates that the Project would generate net annual GHG emissions of 6,258 metric tons of carbon dioxide equivalents per year (“MT CO_2e/year”) (p. IV.E-54, Table IV.E-8). As a result, the FEIR concludes:

> “As shown above, GHG emissions generated by the Project would be approximately 6,258 MTCO_2e per year, as compared to approximately 7,663 MTCO_2e per year that would result from the NAT scenario. As such, the Project would achieve an approximately 18 percent reduction in GHG emissions when compared to the NAT scenario” (p. IV.E-54 – IV.E-55)

Furthermore, regarding the No Action Taken (“NAT”) scenario, the FEIR states:

> “To demonstrate that the Project's characteristics and design features result in a reduction of GHG emissions, CalEEMod was also used to estimate the GHG emissions that would have been generated by the Project if not for its specific characteristics (the No Action Taken, or NAT, scenario). The NAT scenario is conveyed as a point of comparison to show that GHG emissions generated by the Project as proposed would be less than those that could be generated by a similar scale development in the absence of any reduction features or mitigation measures beyond those required by federal, State, and local regulations” (p. IV.E-39).

As demonstrated above, the FEIR claims that the Project would emit less than other similar developments in a NAT scenario. However, the FEIR’s analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

(1) The FEIR’s quantitative GHG analysis relies upon a flawed air model;
(2) The FEIR’s unsubstantiated air model indicates a potentially significant impact; and
(3) The FEIR fails to provide the CalEEMod model for the NAT scenario.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). However, the FEIR’s quantitative analysis is unsubstantiated. As previously discussed, when reviewing the Project’s CalEEMod models we found that several of the values inputted into the models are not consistent with information disclosed in the FEIR. As a result, the models may underestimate the Project’s emissions, and the FEIR’s quantitative analysis should not be relied upon to determine Project significance. A revised EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

2) Failure to Identify a Potentially Significant GHG Impact

In an effort to quantitatively evaluate the Project’s GHG emissions, we compared the Project’s GHG emissions, as estimated by the FEIR, to the SCAQMD 2035 service population efficiency target of 3.0 MT

CO_2e/SP/year, which was calculated by applying a 40% reduction to the 2020 targets.[20] When applying this threshold, the Project's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.

As previously stated, the FEIR estimates that the Project would generate net annual GHG emissions of 6,258 MT CO_2e/year (p. IV.E-54, Table IV.E-8). According to CAPCOA's *CEQA & Climate Change* report, a service population ("SP") is defined as "the sum of the number of residents and the number of jobs supported by the project."[21] The FEIR indicates that the Project would employ 1,270 people during operation (p. IV.A-35). As the Project does not include any residential land uses, we estimate a SP of 1,270 people.[22] When dividing the Project's net annual GHG emissions, as estimated by the FEIR, by a SP of 1,270 people, we find that the Project would emit approximately 4.9 MT CO_2e/SP/year (see table below).[23]

FEIR Greenhouse Gas Emissions	
Annual Emissions (MT CO_2e/year)	6,258
Service Population	1,270
Service Population Efficiency (MT CO_2e/SP/year)	4.9
SCAQMD 2035 Target	**3.0**
Exceeds?	***Yes***

As demonstrated above, the Project's service population efficiency value, as estimated by the FEIR's provided net annual GHG emission estimates and SP, exceeds the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, indicating a potentially significant impact not previously identified or addressed by the FEIR and associated documents. As a result, the FEIR's less-than-significant GHG impact conclusion should not be relied upon. A revised EIR should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels.

3) Failure to Provide the CalEEMod Model for NAT Scenario

As previously mentioned, the FEIR relies on a CalEEMod model of an NAT scenario to determine whether the Project's GHG emissions would have a significant impact (p. IV.E-39). Specifically, the FEIR estimates that the Project would have a 18% reduction of GHG emissions when compared to the NAT scenario. (p. IV.E-39 - 41).

[20] "Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15." SCAQMD, September 2010, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, p. 2.
[21] "CEQA & Climate Change." California Air Pollution Control Officers Association (CAPCOA), January 2008, *available at:* https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf, p. 71-72.
[22] Calculated: 1,270 employees + 0 residents = 1,270 total SP.
[23] Calculated: (6,258 MT CO_2e/year) / (1,270 service population) = (4.9 MT CO_2e/SP/year).

However, this statement is unreliable as the FEIR fails to provide the CalEEMod model used to estimate the emissions associated with the NAT scenario. As such, we cannot confirm that any of the project specific characteristics would result in a reduction in GHG emissions. Additionally, to reduce the Project's GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality, health risk, and GHG impacts that should be mitigated further. In an effort to reduce the Project's emissions, we recommend consideration of SCAG's 2020 *RTP/SCS* PEIR's Air Quality Project Level Mitigation Measures ("PMM-AQ-1") and Greenhouse Gas Project Level Mitigation Measures ("PMM-GHG-1"), as described below: [24]

SCAG RTP/SCS 2020-2045
Air Quality Project Level Mitigation Measures – PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:
a) Minimize land disturbance.
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
c) Cover trucks when hauling dirt.
d) Stabilize the surface of dirt piles if not removed immediately.
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
f) Minimize unnecessary vehicular and machinery activities.
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.

[24] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." Southern California Association of Governments (SCAG), May 2020, *available at:* https://scag.ca.gov/peir.

j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
k) Ensure that all construction equipment is properly tuned and maintained.
l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.
m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.
r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.
z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
bb) The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible: - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85% - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%. - Nonroad diesel engines on site shall be Tier 2 or higher. - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or

CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.

- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
    - i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
    - ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
    - iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:
    - i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
    - ii. Any problems with the equipment or emission controls.
    - iii. Certified copies of fuel deliveries for the time period that identify:
        1. Source of supply
        2. Quantity of fuel
        3. Quantity of fuel, including sulfur content (percent by weight)

Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1

In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.

c) Include off-site measures to mitigate a project's emissions.

d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:

- i. Use energy and fuel-efficient vehicles and equipment;
- ii. Deployment of zero- and/or near zero emission technologies;
- iii. Use lighting systems that are energy efficient, such as LED technology;
- iv. Use the minimum feasible amount of GHG-emitting construction materials;
- v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
- vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;

vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above.
e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following: i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program;
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that: i. Provide car-sharing, bike sharing, and ride-sharing programs; ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services; iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes.
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
j) Land use siting and design measures that reduce GHG emissions, including: i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit;

iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
m) Encourage telecommuting and alternative work schedules, such as: i. Staggered starting times ii. Flexible schedules iii. Compressed work weeks
n) Implement commute trip reduction marketing, such as: i. New employee orientation of trip reduction and alternative mode options ii. Event promotions iii. Publications
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: i. Explicitly charging for parking for its employees; ii. Implementing above market rate pricing; iii. Validating parking only for invited guests; iv. Not providing employee parking and transportation allowances; and v. Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

A revised EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	343	0.0583	890	52
Site Preparation	2	343	0.0058	890	5
Grading	4	343	0.0117	890	10
Construction	200	343	0.5831	890	519
Paving	10	343	0.0292	890	26
Architectural Coating	10	343	0.0292	890	26

	Total Default Construction Duration		Revised Construction Duration
Start Date	12/5/2022		12/5/2022
End Date	11/13/2023		5/13/2025
Total Days	343		890

Attachment B

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0609	1,199.0609	0.0940	0.1069	1,233.2671
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4510	714.4510	0.0536	0.0395	727.5740
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0609**	**1,199.0609**	**0.0940**	**0.1069**	**1,233.2671**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0176	0.1763	0.1465	2.9000e-004	9.9000e-003	8.4600e-003	0.0184	1.7800e-003	7.9000e-003	9.6900e-003	0.0000	25.7059	25.7059	5.5900e-003	5.8000e-004	26.0186
2023	1.9499	3.4500	3.4137	0.0129	0.5749	0.0949	0.6698	0.1615	0.0908	0.2524	0.0000	1,199.0606	1,199.0606	0.0940	0.1069	1,233.2667
2024	0.2855	2.0378	2.7443	7.9300e-003	0.3976	0.0634	0.4610	0.1075	0.0611	0.1686	0.0000	714.4508	714.4508	0.0536	0.0395	727.5737
2025	3.0600e-003	0.0223	0.0305	9.0000e-005	4.5500e-003	6.4000e-004	5.1900e-003	1.2300e-003	6.1000e-004	1.8400e-003	0.0000	8.0382	8.0382	6.0000e-004	4.4000e-004	8.1847
Maximum	**1.9499**	**3.4500**	**3.4137**	**0.0129**	**0.5749**	**0.0949**	**0.6698**	**0.1615**	**0.0908**	**0.2524**	**0.0000**	**1,199.0606**	**1,199.0606**	**0.0940**	**0.1069**	**1,233.2667**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-5-2022**	**3-4-2023**	1.8672	1.8672
2	**3-5-2023**	**6-4-2023**	0.6054	0.6054
3	**6-5-2023**	**9-4-2023**	0.6027	0.6027
4	**9-5-2023**	**12-4-2023**	2.2476	2.2476
5	**12-5-2023**	**3-4-2024**	0.6301	0.6301
6	**3-5-2024**	**6-4-2024**	0.5775	0.5775
7	**6-5-2024**	**9-4-2024**	0.5749	0.5749
8	**9-5-2024**	**12-4-2024**	0.5749	0.5749

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**12-5-2024**	**3-4-2025**	0.1894	0.1894
		Highest	2.2476	2.2476

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Energy	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	2,113.3345	2,113.3345	0.0928	0.0157	2,120.3441
Mobile	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Stationary	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Waste						0.0000	0.0000		0.0000	0.0000	81.6044	0.0000	81.6044	4.8227	0.0000	202.1714
Water						0.0000	0.0000		0.0000	0.0000	5.0505	65.6059	70.6564	0.5219	0.0126	87.4661
Total	**2.6616**	**1.6018**	**12.0670**	**0.0266**	**2.7139**	**0.0397**	**2.7536**	**0.7241**	**0.0384**	**0.7625**	**86.6549**	**4,495.0695**	**4,581.7244**	**5.6072**	**0.1335**	**4,761.6742**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	

3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	
5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-003	0.0000	7.5000e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**7.5000e-003**	**8.3800e-003**	**0.0159**	**1.1400e-003**	**7.8300e-003**	**8.9700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	9.7300e-003	2.0300e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	7.0000e-005	3.3000e-004	0.0000	3.4566	3.4566	1.8000e-004	5.5000e-004	3.6246
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
Total	**7.0000e-004**	**0.0101**	**6.8500e-003**	**4.0000e-005**	**2.3900e-003**	**8.0000e-005**	**2.4700e-003**	**6.5000e-004**	**8.0000e-005**	**7.2000e-004**	**0.0000**	**4.6282**	**4.6282**	**2.1000e-004**	**5.8000e-004**	**4.8066**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0120	0.0000	0.0120	1.8200e-003	0.0000	1.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2291	0.2153	3.9000e-004		0.0108	0.0108		0.0101	0.0101	0.0000	33.7385	33.7385	8.5500e-003	0.0000	33.9523
Total	**0.0236**	**0.2291**	**0.2153**	**3.9000e-004**	**0.0120**	**0.0108**	**0.0228**	**1.8200e-003**	**0.0101**	**0.0119**	**0.0000**	**33.7385**	**33.7385**	**8.5500e-003**	**0.0000**	**33.9523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0120	2.8200e-003	5.0000e-005	1.5600e-003	7.0000e-005	1.6300e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	5.2217	5.2217	2.9000e-004	8.3000e-004	5.4760
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	7.0900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8143	1.8143	5.0000e-005	5.0000e-005	1.8296
Total	**8.3000e-004**	**0.0125**	**9.9100e-003**	**7.0000e-005**	**3.8400e-003**	**8.0000e-005**	**3.9200e-003**	**1.0400e-003**	**8.0000e-005**	**1.1200e-003**	**0.0000**	**7.0359**	**7.0359**	**3.4000e-004**	**8.8000e-004**	**7.3056**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0397	0.0000	0.0397	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3300e-003	0.0791	0.0533	1.2000e-004		3.3500e-003	3.3500e-003		3.0900e-003	3.0900e-003	0.0000	10.2489	10.2489	3.3100e-003	0.0000	10.3318
Total	**7.3300e-003**	**0.0791**	**0.0533**	**1.2000e-004**	**0.0397**	**3.3500e-003**	**0.0430**	**0.0178**	**3.0900e-003**	**0.0209**	**0.0000**	**10.2489**	**10.2489**	**3.3100e-003**	**0.0000**	**10.3318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0134	0.9650	0.2262	4.2100e-003	0.1251	5.9700e-003	0.1311	0.0344	5.7100e-003	0.0401	0.0000	419.3558	419.3558	0.0232	0.0666	439.7828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.9000e-004	2.5600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6542	0.6542	2.0000e-005	2.0000e-005	0.6597
Total	**0.0137**	**0.9652**	**0.2287**	**4.2200e-003**	**0.1259**	**5.9800e-003**	**0.1319**	**0.0346**	**5.7100e-003**	**0.0403**	**0.0000**	**420.0100**	**420.0100**	**0.0232**	**0.0666**	**440.4425**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6309	230.6309	0.0392	0.0000	231.6100
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6309**	**230.6309**	**0.0392**	**0.0000**	**231.6100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1935	1.4872	1.6016	2.8000e-003		0.0653	0.0653		0.0631	0.0631	0.0000	230.6306	230.6306	0.0392	0.0000	231.6097
Total	**0.1935**	**1.4872**	**1.6016**	**2.8000e-003**		**0.0653**	**0.0653**		**0.0631**	**0.0631**	**0.0000**	**230.6306**	**230.6306**	**0.0392**	**0.0000**	**231.6097**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5067	0.1897	2.3400e-003	0.0792	2.4300e-003	0.0817	0.0229	2.3300e-003	0.0252	0.0000	228.6051	228.6051	7.6400e-003	0.0329	238.6002
Worker	0.0887	0.0704	0.9519	2.6600e-003	0.3062	1.8800e-003	0.3081	0.0813	1.7300e-003	0.0831	0.0000	243.7049	243.7049	6.4800e-003	6.3400e-003	245.7574
Total	**0.1029**	**0.5771**	**1.1416**	**5.0000e-003**	**0.3854**	**4.3100e-003**	**0.3897**	**0.1042**	**4.0600e-003**	**0.1083**	**0.0000**	**472.3100**	**472.3100**	**0.0141**	**0.0392**	**484.3576**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9108	237.9108	0.0396	0.0000	238.9013
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9108**	**237.9108**	**0.0396**	**0.0000**	**238.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.4494	1.6398	2.8900e-003		0.0590	0.0590		0.0570	0.0570	0.0000	237.9105	237.9105	0.0396	0.0000	238.9010
Total	**0.1860**	**1.4494**	**1.6398**	**2.8900e-003**		**0.0590**	**0.0590**		**0.0570**	**0.0570**	**0.0000**	**237.9105**	**237.9105**	**0.0396**	**0.0000**	**238.9010**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5237	0.1915	2.3800e-003	0.0817	2.5300e-003	0.0843	0.0236	2.4200e-003	0.0260	0.0000	232.2674	232.2674	7.9100e-003	0.0335	242.4360
Worker	0.0853	0.0648	0.9131	2.6600e-003	0.3158	1.8600e-003	0.3177	0.0839	1.7100e-003	0.0856	0.0000	244.2729	244.2729	6.0500e-003	6.0800e-003	246.2368
Total	**0.0995**	**0.5885**	**1.1046**	**5.0400e-003**	**0.3976**	**4.3900e-003**	**0.4019**	**0.1075**	**4.1300e-003**	**0.1116**	**0.0000**	**476.5403**	**476.5403**	**0.0140**	**0.0395**	**488.6727**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9900e-003	0.0156	0.0187	3.0000e-005		5.9000e-004	5.9000e-004		5.7000e-004	5.7000e-004	0.0000	2.7245	2.7245	4.4000e-004	0.0000	2.7356
Total	**1.9900e-003**	**0.0156**	**0.0187**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.7245**	**2.7245**	**4.4000e-004**	**0.0000**	**2.7356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9700e-003	2.1500e-003	3.0000e-005	9.4000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	2.6117	2.6117	9.0000e-005	3.8000e-004	2.7262
Worker	9.1000e-004	6.7000e-004	9.7300e-003	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7020	2.7020	6.0000e-005	7.0000e-005	2.7229
Total	**1.0700e-003**	**6.6400e-003**	**0.0119**	**6.0000e-005**	**4.5600e-003**	**5.0000e-005**	**4.6000e-003**	**1.2300e-003**	**5.0000e-005**	**1.2800e-003**	**0.0000**	**5.3137**	**5.3137**	**1.5000e-004**	**4.5000e-004**	**5.4491**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3042	15.3042	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3042**	**15.3042**	**4.8500e-003**	**0.0000**	**15.4254**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3800e-003	0.0811	0.1144	1.8000e-004		4.0100e-003	4.0100e-003		3.7000e-003	3.7000e-003	0.0000	15.3041	15.3041	4.8500e-003	0.0000	15.4254
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3800e-003**	**0.0811**	**0.1144**	**1.8000e-004**		**4.0100e-003**	**4.0100e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**15.3041**	**15.3041**	**4.8500e-003**	**0.0000**	**15.4254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.3000e-004	5.7600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4741	1.4741	4.0000e-005	4.0000e-005	1.4865
Total	**5.4000e-004**	**4.3000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4741**	**1.4741**	**4.0000e-005**	**4.0000e-005**	**1.4865**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0169	0.0235	4.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	3.3192	3.3192	2.0000e-004	0.0000	3.3242
Total	**1.5974**	**0.0169**	**0.0235**	**4.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**3.3192**	**3.3192**	**2.0000e-004**	**0.0000**	**3.3242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8100e-003	1.4400e-003	0.0195	5.0000e-005	6.2700e-003	4.0000e-005	6.3100e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	4.9892	4.9892	1.3000e-004	1.3000e-004	5.0313
Total	**1.8100e-003**	**1.4400e-003**	**0.0195**	**5.0000e-005**	**6.2700e-003**	**4.0000e-005**	**6.3100e-003**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**0.0000**	**4.9892**	**4.9892**	**1.3000e-004**	**1.3000e-004**	**5.0313**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441
Unmitigated	1.2302	1.2966	11.8107	0.0250	2.7139	0.0185	2.7324	0.7241	0.0172	0.7413	0.0000	2,311.1994	2,311.1994	0.1691	0.1051	2,346.7441

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.712 2	1,832.712 2	0.0874	0.0106	1,838.054 2
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,832.712 2	1,832.712 2	0.0874	0.0106	1,838.054 2
NaturalGas Mitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899
NaturalGas Unmitigated	0.0284	0.2578	0.2165	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6223	280.6223	5.3800e-003	5.1400e-003	282.2899

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e +006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e +006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	3.38147e +006	0.0182	0.1658	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.4483	180.4483	3.4600e-003	3.3100e-003	181.5206
High Turnover (Sit Down Restaurant)	1.87719e +006	0.0101	0.0920	0.0773	5.5000e-004		6.9900e-003	6.9900e-003		6.9900e-003	6.9900e-003	0.0000	100.1740	100.1740	1.9200e-003	1.8400e-003	100.7693
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0284**	**0.2578**	**0.2165**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6223**	**280.6223**	**5.3800e-003**	**5.1500e-003**	**282.2899**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38655e +006	435.2068	0.0208	2.5200e-003	436.4753
General Office Building	4.09975e +006	1,286.816 6	0.0614	7.4400e-003	1,290.567 5
High Turnover (Sit Down Restaurant)	352650	110.6888	5.2800e-003	6.4000e-004	111.0115
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,832.712 2**	**0.0874**	**0.0106**	**1,838.054 2**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Unmitigated	1.3925	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0250	0.0250	7.0000e-005	0.0000	0.0267
Total	**1.3925**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0250**	**0.0250**	**7.0000e-005**	**0.0000**	**0.0267**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	70.6564	0.5219	0.0126	87.4661
Unmitigated	70.6564	0.5219	0.0126	87.4661

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	15.9195 / 0.13943	70.5995	0.5219	0.0126	87.4090
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 0.01632	0.0569	0.0000	0.0000	0.0571
Total		**70.6564**	**0.5219**	**0.0126**	**87.4661**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.6044	4.8227	0.0000	202.1714
Unmitigated	81.6044	4.8227	0.0000	202.1714

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	305.02	61.9163	3.6592	0.0000	153.3950
High Turnover (Sit Down Restaurant)	96.99	19.6881	1.1635	0.0000	48.7764
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		**81.6044**	**4.8227**	**0.0000**	**202.1714**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0106	0.0473	0.0270	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.9047	4.9047	6.9000e-004	0.0000	4.9219
Total	**0.0106**	**0.0473**	**0.0270**	**5.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5500e-003**	**1.5500e-003**	**0.0000**	**4.9047**	**4.9047**	**6.9000e-004**	**0.0000**	**4.9219**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7587	17.5773	14.6736	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,838.7524	2,838.7524	0.6161	0.0637	2,873.1387
2023	126.0482	229.9143	92.3733	0.9566	37.6397	3.0956	40.7353	11.5894	2.9264	14.5157	0.0000	103,829.7996	103,829.7996	6.9301	15.0766	108,495.8748
2024	2.1864	15.3096	21.3461	0.0613	3.0932	0.4840	3.5772	0.8348	0.4662	1.3010	0.0000	6,092.7462	6,092.7462	0.4503	0.3283	6,201.8381
2025	2.0452	14.5959	20.7249	0.0603	3.0932	0.4253	3.5185	0.8348	0.4094	1.2442	0.0000	5,984.9893	5,984.9893	0.4393	0.3203	6,091.4288
Maximum	**126.0482**	**229.9143**	**92.3733**	**0.9566**	**37.6397**	**3.0956**	**40.7353**	**11.5894**	**2.9264**	**14.5157**	**0.0000**	**103,829.7996**	**103,829.7996**	**6.9301**	**15.0766**	**108,495.8748**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.3384**	**14.6870**	**70.3467**	**0.1575**	**15.2080**	**0.4317**	**15.6397**	**4.0512**	**0.4244**	**4.4756**		**16,923.4505**	**16,923.4505**	**1.1382**	**0.6378**	**17,141.9806**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0248	0.9227	0.2014	3.4800e-003	0.0990	7.0400e-003	0.1061	0.0272	6.7400e-003	0.0339		380.9881	380.9881	0.0204	0.0605	399.5113
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
Total	**0.0698**	**0.9556**	**0.7131**	**4.8100e-003**	**0.2443**	**7.9700e-003**	**0.2523**	**0.0657**	**7.6000e-003**	**0.0733**		**515.3355**	**515.3355**	**0.0240**	**0.0637**	**534.9197**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0107	0.7121	0.1753	3.2700e-003	0.0990	4.6400e-003	0.1037	0.0272	4.4400e-003	0.0316		359.6245	359.6245	0.0199	0.0571	377.1417
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0523**	**0.7411**	**0.6451**	**4.5600e-003**	**0.2444**	**5.5100e-003**	**0.2499**	**0.0657**	**5.2400e-003**	**0.0709**		**489.6343**	**489.6343**	**0.0232**	**0.0601**	**508.1276**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7478	183.0088	45.0383	0.8409	25.4517	1.1933	26.6450	6.9774	1.1417	8.1191		92,421.5140	92,421.5140	5.1212	14.6772	96,923.3413
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0480	0.0335	0.5421	1.4800e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		150.0113	150.0113	3.7800e-003	3.4600e-003	151.1375
Total	**2.7958**	**183.0422**	**45.5804**	**0.8423**	**25.6193**	**1.1943**	**26.8137**	**7.0219**	**1.1426**	**8.1645**		**92,571.5253**	**92,571.5253**	**5.1250**	**14.6806**	**97,074.4789**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.787 7	2,001.787 7	0.3399		2,010.285 8
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.787 7**	**2,001.787 7**	**0.3399**		**2,010.285 8**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1140	3.8000	1.4721	0.0184	0.6341	0.0191	0.6532	0.1826	0.0183	0.2009		1,982.796 5	1,982.796 5	0.0665	0.2851	2,069.408 0
Worker	0.7041	0.4908	7.9508	0.0218	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,200.165 8	2,200.165 8	0.0555	0.0508	2,216.683 6
Total	**0.8180**	**4.2908**	**9.4229**	**0.0402**	**3.0932**	**0.0339**	**3.1271**	**0.8348**	**0.0319**	**0.8666**		**4,182.962 3**	**4,182.962 3**	**0.1219**	**0.3358**	**4,286.091 6**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.018 6	1,953.018 6	0.0667	0.2811	2,038.449 7
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.806 2	2,137.806 2	0.0502	0.0472	2,153.132 2
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.824 8**	**4,090.824 8**	**0.1169**	**0.3283**	**4,191.581 9**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1105	3.8077	1.4408	0.0181	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,953.0186	1,953.0186	0.0667	0.2811	2,038.4497
Worker	0.6559	0.4381	7.3881	0.0212	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,137.8062	2,137.8062	0.0502	0.0472	2,153.1322
Total	**0.7664**	**4.2458**	**8.8289**	**0.0393**	**3.0932**	**0.0334**	**3.1266**	**0.8348**	**0.0314**	**0.8662**		**4,090.8248**	**4,090.8248**	**0.1169**	**0.3283**	**4,191.5819**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.856 6	1,917.856 6	0.0672	0.2762	2,001.849 7
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.980 3	2,064.980 3	0.0453	0.0441	2,079.254 3
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.836 8**	**3,982.836 8**	**0.1124**	**0.3203**	**4,081.104 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.152 4	2,002.152 4	0.3269		2,010.324 8
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.152 4**	**2,002.152 4**	**0.3269**		**2,010.324 8**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1074	3.7897	1.4143	0.0178	0.6342	0.0193	0.6534	0.1826	0.0185	0.2011		1,917.8566	1,917.8566	0.0672	0.2762	2,001.8497
Worker	0.6132	0.3934	6.8713	0.0204	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		2,064.9803	2,064.9803	0.0453	0.0441	2,079.2543
Total	**0.7205**	**4.1831**	**8.2856**	**0.0382**	**3.0932**	**0.0328**	**3.1260**	**0.8348**	**0.0309**	**0.8656**		**3,982.8368**	**3,982.8368**	**0.1124**	**0.3203**	**4,081.1041**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
Total	**0.0416**	**0.0290**	**0.4698**	**1.2900e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**130.0098**	**130.0098**	**3.2800e-003**	**3.0000e-003**	**130.9859**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1408	0.0982	1.5902	4.3500e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		440.0332	440.0332	0.0111	0.0102	443.3367
Total	**0.1408**	**0.0982**	**1.5902**	**4.3500e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**440.0332**	**440.0332**	**0.0111**	**0.0102**	**443.3367**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370
Unmitigated	7.0405	6.5220	65.2079	0.1418	15.2080	0.1019	15.3099	4.0512	0.0946	4.1458		14,455.9008	14,455.9008	0.9969	0.6068	14,661.6370

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4th and hewitt Project MXD-TDM

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	327.98	1000sqft	1.31	327,980.00	0
User Defined Commercial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking with Elevator	660.00	Space	0.00	254,881.00	0
Other Non-Asphalt Surfaces	11.10	1000sqft	0.25	11,098.00	0
High Turnover (Sit Down Restaurant)	8.15	1000sqft	0.00	8,150.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the FEIR's model.

Land Use - Consistent with the FEIR's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment - Consistent with the FEIR's model.

Off-road Equipment -

Grading - See SWAPE's comment on "Incorrect Reduction to Acres of Grading Value".

Trips and VMT - Consistent with the FEIR's model.

Demolition - Consistent with the FEIR's model.

Vehicle Trips - Consistent with the FEiR's model.

Water And Wastewater - Consistent with the FEIR's model.

Solid Waste - See SWAPE's comment on "Unsubstantiated Changes to Solid Waste Generation Rates".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with the FEIR's model.

Construction Off-road Equipment Mitigation - Consistent with the FEIR's model.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	200.00	519.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	26.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	11/13/2023	12/5/2023
tblConstructionPhase	PhaseEndDate	10/16/2023	1/3/2025
tblConstructionPhase	PhaseEndDate	12/30/2022	2/14/2023
tblConstructionPhase	PhaseEndDate	1/9/2023	1/17/2023
tblConstructionPhase	PhaseEndDate	10/30/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2023	1/6/2023
tblGrading	MaterialExported	0.00	75,200.00
tblLandUse	LandUseSquareFeet	264,000.00	254,881.00
tblLandUse	LandUseSquareFeet	11,100.00	11,098.00
tblLandUse	LotAcreage	7.53	1.31
tblLandUse	LotAcreage	5.94	0.00
tblLandUse	LotAcreage	0.19	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,840.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	7.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripLength	20.00	27.00
tblTripsAndVMT	HaulingTripNumber	180.00	218.00
tblTripsAndVMT	HaulingTripNumber	9,400.00	10,774.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	7.20
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	0.00	2,756.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	0.00	2,756.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	0.00	2,756.00
tblWater	IndoorWaterUseRate	58,293,114.67	15,919,475.00
tblWater	IndoorWaterUseRate	2,473,799.76	0.00
tblWater	OutdoorWaterUseRate	35,728,038.02	139,430.00

tblWater	OutdoorWaterUseRate	157,902.11	0.00
tblWater	OutdoorWaterUseRate	0.00	16,320.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6005	5,983.6005	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7614	17.6178	14.6345	0.0289	0.9941	0.8459	1.8400	0.1792	0.7905	0.9697	0.0000	2,831.7329	2,831.7329	0.6161	0.0640	2,866.1908
2023	126.1103	238.0351	92.1998	0.9561	37.6397	3.0980	40.7377	11.5894	2.9287	14.5181	0.0000	103,775.6394	103,775.6394	6.9225	15.0933	108,446.5110
2024	2.2335	15.5343	20.8006	0.0603	3.0932	0.4841	3.5773	0.8348	0.4663	1.3011	0.0000	5,983.6004	5,983.6004	0.4507	0.3323	6,093.8774
2025	2.0910	14.8152	20.2251	0.0592	3.0932	0.4254	3.5186	0.8348	0.4095	1.2443	0.0000	5,879.9158	5,879.9158	0.4398	0.3240	5,987.4673
Maximum	**126.1103**	**238.0351**	**92.1998**	**0.9561**	**37.6397**	**3.0980**	**40.7377**	**11.5894**	**2.9287**	**14.5181**	**0.0000**	**103,775.6394**	**103,775.6394**	**6.9225**	**15.0933**	**108,446.5110**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Energy	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
Mobile	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Stationary	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**16.1854**	**15.2049**	**69.6086**	**0.1515**	**15.2080**	**0.4318**	**15.6398**	**4.0512**	**0.4245**	**4.4756**		**16,320.9535**	**16,320.9535**	**1.1719**	**0.6646**	**16,548.3107**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/5/2022	2/14/2023	5	52	
2	Site Preparation	Site Preparation	12/31/2022	1/6/2023	5	5	
3	Grading	Grading	1/4/2023	1/17/2023	5	10	
4	Building Construction	Building Construction	1/10/2023	1/3/2025	5	519	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	10/17/2023	11/21/2023	5	26	
6	Architectural Coating	Architectural Coating	10/31/2023	12/5/2023	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 504,195; Non-Residential Outdoor: 168,065; Striped Parking Area: 15,959 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	218.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	15.00	0.00	10,774.00	14.70	6.90	27.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	220.00	99.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.7498**	**0.8379**	**1.5877**	**0.1135**	**0.7829**	**0.8964**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0243	0.9598	0.2043	3.4800e-003	0.0990	7.0500e-003	0.1061	0.0272	6.7500e-003	0.0339		381.0717	381.0717	0.0203	0.0605	399.5988
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
Total	**0.0725**	**0.9961**	**0.6740**	**4.7400e-003**	**0.2443**	**7.9800e-003**	**0.2523**	**0.0657**	**7.6100e-003**	**0.0733**		**508.3161**	**508.3161**	**0.0240**	**0.0640**	**527.9717**

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7498	0.0000	0.7498	0.1135	0.0000	0.1135			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**	**0.7498**	**0.6766**	**1.4264**	**0.1135**	**0.6328**	**0.7463**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.7427	0.1772	3.2700e-003	0.0990	4.6500e-003	0.1037	0.0272	4.4500e-003	0.0316		359.9084	359.9084	0.0199	0.0572	377.4388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0548**	**0.7747**	**0.6091**	**4.4900e-003**	**0.2444**	**5.5200e-003**	**0.2499**	**0.0657**	**5.2500e-003**	**0.0709**		**483.0644**	**483.0644**	**0.0232**	**0.0604**	**501.6328**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170		2,259.494 2	2,259.494 2	0.7308		2,277.763 3
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**		**2,259.494 2**	**2,259.494 2**	**0.7308**		**2,277.763 3**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9330	0.0000	7.9330	3.5535	0.0000	3.5535			0.0000			0.0000
Off-Road	1.4655	15.8114	10.6562	0.0233		0.6707	0.6707		0.6170	0.6170	0.0000	2,259.4942	2,259.4942	0.7308		2,277.7633
Total	**1.4655**	**15.8114**	**10.6562**	**0.0233**	**7.9330**	**0.6707**	**8.6037**	**3.5535**	**0.6170**	**4.1706**	**0.0000**	**2,259.4942**	**2,259.4942**	**0.7308**		**2,277.7633**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5972	190.8626	45.5411	0.8415	25.4517	1.1956	26.6473	6.9774	1.1439	8.1213		92,494.4753	92,494.4753	5.1131	14.6892	96,999.6827
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0370	0.4983	1.4100e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		142.1030	142.1030	3.8300e-003	3.7000e-003	143.3009
Total	**2.6488**	**190.8996**	**46.0394**	**0.8430**	**25.6193**	**1.1967**	**26.8160**	**7.0219**	**1.1449**	**8.1667**		**92,636.5784**	**92,636.5784**	**5.1169**	**14.6929**	**97,142.9835**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.141 0	1,986.141 0	0.0662	0.2858	2,072.971 9
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.177 9	2,084.177 9	0.0562	0.0542	2,101.745 9
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.318 9**	**4,070.318 9**	**0.1224**	**0.3401**	**4,174.717 8**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.787 7	2,001.787 7	0.3399		2,010.285 8
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.787 7**	**2,001.787 7**	**0.3399**		**2,010.285 8**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1101	3.9785	1.5184	0.0185	0.6341	0.0192	0.6534	0.1826	0.0184	0.2010		1,986.1410	1,986.1410	0.0662	0.2858	2,072.9719
Worker	0.7564	0.5422	7.3081	0.0206	2.4591	0.0148	2.4739	0.6522	0.0136	0.6658		2,084.1779	2,084.1779	0.0562	0.0542	2,101.7459
Total	**0.8665**	**4.5207**	**8.8265**	**0.0391**	**3.0932**	**0.0340**	**3.1272**	**0.8348**	**0.0320**	**0.8668**		**4,070.3189**	**4,070.3189**	**0.1224**	**0.3401**	**4,174.7178**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.381 9	1,956.381 9	0.0664	0.2818	2,042.025 8
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.297 1	2,025.297 1	0.0509	0.0504	2,041.595 3
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.679 0**	**3,981.679 0**	**0.1173**	**0.3323**	**4,083.621 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.921 4	2,001.921 4	0.3334		2,010.256 3
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.921 4**	**2,001.921 4**	**0.3334**		**2,010.256 3**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1064	3.9867	1.4865	0.0182	0.6341	0.0193	0.6535	0.1826	0.0185	0.2011		1,956.3819	1,956.3819	0.0664	0.2818	2,042.0258
Worker	0.7071	0.4838	6.7969	0.0200	2.4591	0.0142	2.4732	0.6522	0.0130	0.6652		2,025.2971	2,025.2971	0.0509	0.0504	2,041.5953
Total	**0.8135**	**4.4704**	**8.2834**	**0.0382**	**3.0932**	**0.0335**	**3.1267**	**0.8348**	**0.0315**	**0.8663**		**3,981.6790**	**3,981.6790**	**0.1173**	**0.3323**	**4,083.6211**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1032	3.9681	1.4596	0.0178	0.6342	0.0194	0.6536	0.1826	0.0186	0.2012		1,921.2186	1,921.2186	0.0669	0.2769	2,005.4187
Worker	0.6632	0.4343	6.3262	0.0194	2.4591	0.0135	2.4726	0.6522	0.0124	0.6646		1,956.5448	1,956.5448	0.0460	0.0471	1,971.7239
Total	**0.7664**	**4.4024**	**7.7858**	**0.0372**	**3.0932**	**0.0329**	**3.1261**	**0.8348**	**0.0310**	**0.8657**		**3,877.7634**	**3,877.7634**	**0.1129**	**0.3240**	**3,977.1425**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6446**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
Total	**0.0447**	**0.0320**	**0.4318**	**1.2200e-003**	**0.1453**	**8.7000e-004**	**0.1462**	**0.0385**	**8.0000e-004**	**0.0393**		**123.1560**	**123.1560**	**3.3200e-003**	**3.2000e-003**	**124.1941**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	122.6883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**122.8799**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1513	0.1084	1.4616	4.1200e-003	0.4918	2.9600e-003	0.4948	0.1304	2.7200e-003	0.1332		416.8356	416.8356	0.0113	0.0109	420.3492
Total	**0.1513**	**0.1084**	**1.4616**	**4.1200e-003**	**0.4918**	**2.9600e-003**	**0.4948**	**0.1304**	**2.7200e-003**	**0.1332**		**416.8356**	**416.8356**	**0.0113**	**0.0109**	**420.3492**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671
Unmitigated	6.8875	7.0398	64.4698	0.1358	15.2080	0.1020	15.3100	4.0512	0.0947	4.1458		13,853.4038	13,853.4038	1.0305	0.6336	14,067.9671

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
User Defined Commercial	2,756.00	2,756.00	2756.00	7,222,925	7,222,925
Total	2,756.00	2,756.00	2,756.00	7,222,925	7,222,925

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
User Defined Commercial	7.20	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
High Turnover (Sit Down Restaurant)	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Other Non-Asphalt Surfaces	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
User Defined Commercial	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485
NaturalGas Unmitigated	0.1554	1.4125	1.1865	8.4700e-003		0.1074	0.1074		0.1074	0.1074		1,694.9761	1,694.9761	0.0325	0.0311	1,705.0485

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9264.31	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5142.98	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.26431	0.0999	0.9083	0.7629	5.4500e-003		0.0690	0.0690		0.0690	0.0690		1,089.9190	1,089.9190	0.0209	0.0200	1,096.3959
High Turnover (Sit Down Restaurant)	5.14298	0.0555	0.5042	0.4235	3.0300e-003		0.0383	0.0383		0.0383	0.0383		605.0571	605.0571	0.0116	0.0111	608.6526
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1554**	**1.4125**	**1.1865**	**8.4800e-003**		**0.1074**	**0.1074**		**0.1074**	**0.1074**		**1,694.9761**	**1,694.9761**	**0.0325**	**0.0311**	**1,705.0485**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Unmitigated	7.6330	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7496					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2207	0.2207	5.7000e-004		0.2350
Total	**7.6330**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2207**	**0.2207**	**5.7000e-004**		**0.2350**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	7	1840	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	1.5096	6.7517	3.8496	7.2600e-003		0.2221	0.2221		0.2221	0.2221		772.3530	772.3530	0.1083		775.0601
Total	**1.5096**	**6.7517**	**3.8496**	**7.2600e-003**		**0.2221**	**0.2221**		**0.2221**	**0.2221**		**772.3530**	**772.3530**	**0.1083**		**775.0601**

11.0 Vegetation

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

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Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

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Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

EXHIBIT B

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Courtney Shum, City Planner
221 North Figueroa Street, Room 1350
Los Angeles, California, 90012 3 August 2023

RE: 4th & Hewitt Project

Dear Ms. Shum,

I write to comment on potential impacts to biological resources that could result from the proposed project at site at 900, 902, 904, 906-910, and 926 East 4th Street; 406, 408, and 414 Colyton Street; 405, 407, 411, 417, and 423 South Hewitt Street (ENV-2017-470-EIR). I understand the project would include 343,925 square feet of office space with some commercial space in an 18-story, 292-foot-tall building on 1.31-acres. I am concerned that the project would cause significant impacts to biological resources that have not been analyzed in the DEIR. In particular, the DEIR entirely neglects to consider the aerosphere as avian habitat.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

EXISTING ENVIRNMENTAL 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, neither of these needed steps were taken.

Environmental Setting informed by Field Surveys

No surveys for wildlife have been completed at the project site. The lack of surveys leaves the City of Los Angeles blind to any potential project impacts to biological resources, because without a survey there is no sound basis for characterizing the existing environmental setting. Of particular concern is that portion of the aerosphere overlying the footprint of the proposed building, and which species of birds and how many birds might fly through that airspace. Going forward with the project without completing appropriate wildlife surveys would be indefensible.

Environmental Setting informed by Desktop Review

The purpose of literature and database review and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

No desktop review has been completed for the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of Los Angeles uninformed of potential project impacts to biological resources.

In my assessment based on database review, 112 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 1). Of these 112 species, 92 are birds that are capable of flying within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 92 special-status species of birds, 31 (34%) have been documented within 1.5 miles of the site ('Very close'), 29 (32%) within 1.5 and 4 miles ('Nearby'), and another 32 (35%) within 4 to 30 miles ('In region'). Two-thirds (65%) of the species in Table 1 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting many special-status species of birds based on proximity of recorded occurrences.

Table 1. *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.*

Common name	***Species name***	**Status**[1]	**Data base records**
Monarch	*Danaus plexippus*	FC	Very close
Brant	*Branta bernicla*	SSC2	In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL	Nearby
Redhead	*Aythya americana*	SSC2	Nearby
Western grebe	*Aechmophorus occidentalis*	BCC	Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2, BCC	Very close
Costa's hummingbird	*Calypte costae*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	Very close
Mountain plover	*Charadrius montanus*	SSC2, BCC	In region
Snowy plover	*Charadrius nivosus*	BCC	In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	In region
Whimbrel[2]	*Numenius phaeopus*	BCC	Nearby
Long-billed curlew	*Numenius americanus*	WL	In region
Marbled godwit	*Limosa fedoa*	BCC	In region
Red knot (Pacific)	*Calidris canutus*	BCC	In region
Short-billed dowitcher	*Limnodromus griseus*	BCC	In region
Willet	*Tringa semipalmata*	BCC	Very close
American avocet[2]	*Recurvirostra americana*	BCC	Very close
Laughing gull	*Leucophaeus atricilla*	WL	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	Very close
California least tern	*Sternula antillarum browni*	FE, CE, FP	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3	In region
Black tern	*Chlidonias niger*	SSC2, BCC	In region
Elegant tern	*Thalasseus elegans*	BCC, WL	In region
Black skimmer	*Rynchops niger*	BCC, SSC3	In region
Common loon	*Gavia immer*	SSC	In region
Brandt's cormorant	*Urile penicillatus*	BCC	In region
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC	Very close

Common name	***Species name***	**Status**[1]	**Data base records**
California brown pelican	*Pelecanus occidentalis californicus*	FP	In region
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, CFP	Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	Very close
Ferruginous hawk	*Buteo regalis*	WL, BOP	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP	In region
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Barn owl	*Tyto alba*	BOP	Very close
Western screech-owl	*Megascops kennicotti*	BOP	Nearby
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Lewis's woodpecker	*Melanerpes lewis*	BCC	Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Very close
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	CFP, BOP	Very close
Prairie falcon	*Falco mexicanus*	WL, BOP	In region
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Nearby
Willow flycatcher	*Empidonax trailii*	CE	Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Nearby
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby

Common name	***Species name***	**Status[1]**	**Data base records**
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Nearby
Cassin's finch	*Haemorhous cassinii*	BCC	In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	In region
Black-chinned sparrow	*Spizella atrogularis*	BCC	In region
Gray-headed junco	*Junco hyemalis caniceps*	WL	Nearby
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Nearby
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Hepatic tanager	*Piranga flava*	WL	In region
Summer tanager	*Piranga rubra*	SSC1	Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In region
Canyon bat	*Parastrellus hesperus*	WBWG:L	In region
Big brown bat	*Episticus fuscus*	WBWG:L	In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	Nearby
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	Nearby
Hoary bat	*Lasiurus cinereus*	WBWG:M	Nearby
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Western small-footed myotis	*Myotis cililabrum*	WBWG:M	In region
Miller's myotis	*Myotis evotis*	WBWG:M	In region
Little brown myotis	*Myotis lucifugus*	WBWG:M	In range
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
California myotis	*Myotis californicus*	WBWG:L	In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	Very close
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	Very close
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In region

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

Because the project would consist of a tall building largely covered in glass, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,360 birds of 113 species have been recorded flying into the Los Angeles area from 16 countries of the Americas, from as far away as Argentina and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgBoABgCsAiQHYCOClACoARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, 43,900 birds flew across portions of Los Angeles County during the night of 2 August 2023, the night before I completed my comments. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area. Many of these birds likely follow along the Los Angeles River, which passes near the site of the proposed project. One of the likely flight paths would be right across that portion of the aerosphere that overlies the footprint of the proposed building (Figure 1).

Bird flights average 35,200 per night during the nights of peak migration (https://dashboard.birdcast.info/region/US-CA-037). Most of these flights range in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Los Angeles, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the height of the proposed building. Assuming this percentage also applies to birds flying across the aerosphere overlying Los Angeles, then at peak migration documented by BirdCast, one can expect 4,541 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in Los Angeles comes in the forms of buildings and trees. In summary, the basis exists for concern that a large

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

number of birds might routinely fly through the aerosphere that would be displaced by the proposed 292-foot-tall building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

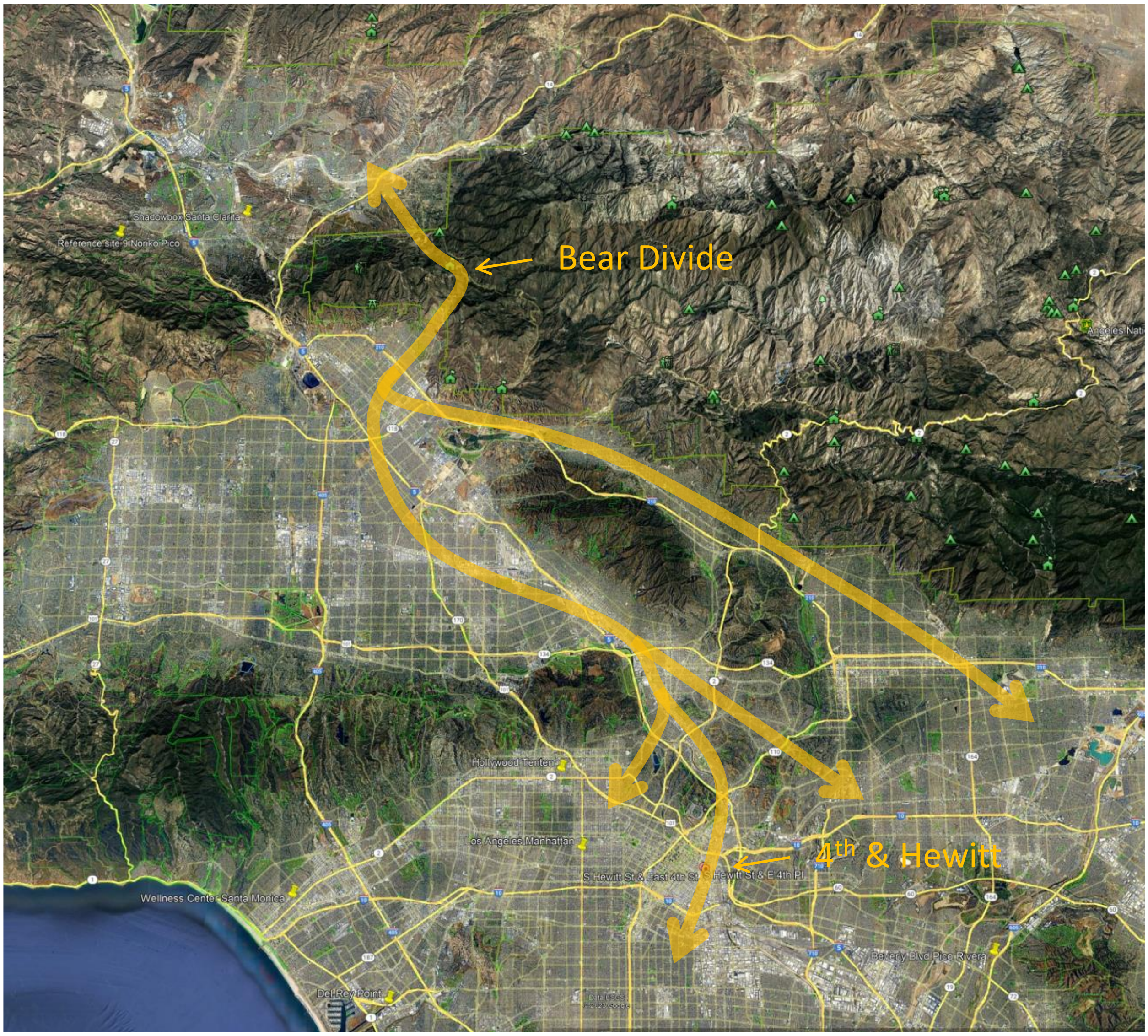

Figure 1. *Likely flight paths of birds passing through Bear Divide, which has been found to serve as a major pathway of bird migration through Los Angeles County (Terrill et al. 2021). The terrain in the map is exaggerated for improved visibility of how birds are likely channeled by the landscape.*

The DEIR should be revised to include an analysis of potential project impacts to birds and how to best mitigate those impacts. Adequate surveys and desktop review is needed to characterize the existing environmental setting in support of an EIR. And the environmental setting of principal concern in this case – the aerosphere – should be carefully examined for migratory bird traffic.

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how the proposed project would affect species of birds. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting, which in the case of this project would be the aerosphere of the project area. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and three important types of potential project impact have not been analyzed.

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. No analysis has been completed to address this concern. Ample evidence is available that the site is important to wildlife movement in the region (see above comments on flight activity). Considering the level of nocturnal flight activity in Los Angeles, the project's impact to wildlife movement would be significant, and as the project is currently proposed, this impact would be unmitigated.

BIRD-WINDOW COLLISIONS

The project would add an 18-story, 292-foot-tall building with expansive windows on its facade. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also,

the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) 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 at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142

bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 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 m^2 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 DEIR does not disclose the extent of glass windows and glass railings on the proposed new building. I therefore measured the extents of windows (though not of the railings) depicted in the building schematics within the DEIR, but I omitted the windows on the 2nd through 5th floors which consisted of a fine grain of small panels separated by framing. Based on my measurements, I estimate the project would include 10,425 m^2 of large-paneled glass in the project building's facades. Applying the mean fatality rate (above) to 10,425 m^2 of glass, I predict annual bird deaths of 762 (95% CI: 452–1,072).

The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised 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. The

EIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 14–17), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 14. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 15. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*


Photos 16 and 17. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020*.)

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by traffic on the road. This fatality number over 1.25 years and 2.5 miles of road translates to 3,900 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-

legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts an annual VMT of 7,222,925. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the DEIR's predicted annual VMT would predict 3,958 vertebrate wildlife fatalities per year. However, fewer animals would be killed in the urbanized part of Los Angeles that surrounds the project site as compared to the study area of Mendelsohn et al. (2009), so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would range between 5% to 10% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 198 to 396, which would be a significant, unmitigated impact to wildlife caused by the project.

Based on my indicator-level analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The Staff Report does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. The EIR should be revised to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

CUMULATIVE IMPACTS

The project would insert an 18-story building into the airspace that has been used by volant wildlife for many thousands of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other mid-rise and high-rise buildings in the area. The project would also cause a predicted 762 (95% CI: 452–1,072) bird-window collision fatalities per year, and would generate a predicted additional 21,481,388 annual VMT, which would contribute 198 to 396 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Los Angeles. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The DEIR proposes no mitigation for potential project impacts to wildlife, including for impacts to flying birds. Below are recommendations for mitigation to be added to a revised DEIR.

RECOMMENDED MEASURES

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of Los Angeles should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Thank you for your consideration,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

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EXHIBIT C

IEE INDOOR ENVIRONMENTAL ENGINEERING IEE
1448 Pine Street, Suite 103 San Francisco, California 94109
Telephone: (415) 567-7700
E-mail: offermann@IEE-SF.com
http://www.iee-sf.com

Date:	August 15, 2023
To:	Marjan Kris Abubo Lozeau | Drury LLP 1939 Harrison Street, Suite 150 Oakland, California 94612
From:	Francis J. Offermann PE CIH
Subject:	Indoor Air Quality: 4th and Hewitt Project, Los Angeles, CA (IEE File Reference: P-4736)
Pages:	19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 μg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 $\mu g/m^3$, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 $\mu g/m^3$. The median indoor formaldehyde concentration was 36 $\mu g/m^3$, and ranged from 4.8 to 136 $\mu g/m^3$, which corresponds to a median exceedance of the 2 $\mu g/m^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 $\mu g/m^3$, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 $\mu g/m^3$ to 28% for the Acute REL of 55 $\mu g/m^3$.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to 4th and Hewitt Project, Los Angeles, CA, the buildings consist of commercial office spaces.

The employees of the office building 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 office building spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the office building employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 $\mu g/m^3$, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V")

identifies an existing cancer risk at the Project site of 791 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

<u>Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment</u>

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (μg/h) from the product of the area-specific formaldehyde emission rate (μg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (μg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes

(California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and

reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 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.

<u>Outdoor Air Ventilation Impact</u>. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is close to roads with moderate to high traffic (e.g., East 4th Street, East 4th Place, East 3rd Street, East 5th Street, South Hewitt Street, Colyton Street, etc.) and in Table IV-I-25 reports that the future plus Project ambient traffic noise levels will range from 55.1 to 71.7 dBA CNEL.

Thus, the Project is located in a sound impacted area and the building envelope and windows require 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.

<u>$PM_{2.5}$ Outdoor Concentrations Impact</u>. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Draft Environmental Impact Report – 4th and Hewitt Project, Los Angeles (City of Los Angeles. 2022), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 791 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct

testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality*" when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.