Appendix A
Draft EIR Comment Letters

Letter A

Santa Clara Valley Transportation Authority

July 13, 2022

City of San José Planning, Building, and Code Enforcement
200 E. Santa Clara St.
San José, CA 95113

Attn: Cassandra van der Zweep
By Email: Cassandra.vanderZweep@sanjoseca.gov

Dear Cassandra,

VTA appreciates the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Qume and Commerce Project. VTA has reviewed the document and has the following comments:

Vehicle Miles Traveled (VMT) Analysis

A.1 VTA supports the intent of mitigation measure TRANS-1 to reduce project generated VMT below the City's threshold by improving multimodal connectivity and providing traffic calming and pedestrian improvements in the vicinity of the project. For the new bicycle/pedestrian pathway connecting the cul-de-sacs at McKay Drive/Automation Parkway and Commerce Drive/Qume Drive, VTA recommends that the City require this connection to be open to the public in perpetuity, i.e., not allowing the current or future land owner to fence or gate this connection.

A.2 VTA also requests clarification regarding the proposed traffic calming component of mitigation measure TRANS-1. The DEIR states that the project applicant shall prepare plans to "...shift existing curb lines along the Commerce Drive and Qume Drive frontages 10 feet inwards to achieve a future 40-foot curb-to-curb width along both streets" (DEIR p. 11) and the TA report includes similar language stating that these traffic calming improvements would occur along the project frontages. However, the San José VMT Evaluation Tool Report (Project With VMT Reduction Strategies) output on Page 26 of the TA report states for Traffic Calming Measures: "Are improvements provided beyond the project frontage? Yes". VTA requests clarification of this point, and we recommend that the project should be required to provide traffic calming measures beyond its own frontage to maintain consistency with the studies and the research supporting this VMT reduction measure. This could include moving the curb line inward and constructing sidewalks on the other side of Commerce Drive and Qume Drive, moving the curb line and constructing sidewalks from the project's frontage to Lundy Avenue, or both.

Thank you again for the opportunity to review this project. If you have any questions, please do not hesitate to contact me at 408-321-5830 or lola.torney@vta.org.

Sincerely,

Lola Torney
Transportation Planner III
SJ2207

Letter B

County of Santa Clara

Roads and Airports Department

101 Skyport Drive
San Jose, CA 95110-1302
(408) 573-2460 FAX 441-0276

August 2, 2022

Cassandra van der Zweep
Supervising Planner | Planning, Building & Code Enforcement
City of San José | 200 East Santa Clara Street
Email: cassandra.vanderzweep@sanjoseca.gov

SUBJECT: Public Notice of Availability of Draft EIR for Qume and Commerce Project

The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Public Notice of Availability of Draft EIR for Qume and Commerce Project. We submit the following comments:

The County believes that this proposed development is part of the North San José Area Development Policy (NSJADP) which this project is within the original NSJADP. which identifies infrastructure improvements for buildout in the North San Jose Traffic Impact Fee Plan (2005). The following improvements within one (1) mile from the project site include:

Roadway Improvements:

B.1

• Montague Expressway Widening – As part of the Tier 1-A improvements to Montague Expressway identified by the County, Montague Expressway will be widened within North San Jose from six to eight lanes between North First Street and I-880. The project will also include the improvement of the I-880 interchange to a partial cloverleaf interchange and intersection improvement at River Oaks/Plumeria and McCandless/Trade Zone. Tier 1-B improvements to Montague Expressway include the construction of a flyover from westbound Montague Expressway to southbound Trimble Road.

Intersection Improvements:

• (10) Old Oakland Road and Montague Expressway - Needed improvements consist of the addition of a second southbound left-turn lane on Old Oakland Road. – there is already an existing double SB left turn.

B.2

The proposed development should contribute a fair share to future Montague improvement projects. The fair share contribution would go towards the Montague improvement as identified in the North San José Area Development Policy (NSJADP) which this project is within the original NSJADP.

Thank you again for your continued outreach and coordination with the County. If you have any questions or concerns about these comments, please feel free to contact me at ben.aghegnehu@rda.sccgov.org

Thank you,

Letter C

Subject: RE: Follow-up to phone call message re: City of San Jose's Qume and Commerce Project DEIR

From: Andrea Gordon <AGordon@baaqmd.gov>
Sent: Wednesday, August 10, 2022 12:12 PM
To: Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>
Subject: Follow-up to phone call message re: City of San Jose's Qume and Commerce Project DEIR

Hello Cassandra –

C.1 This message is a follow-up to my phone call/message last Wednesday (8/3), to the City of San Jose (City) regarding the City of San Jose's Qume and Commerce Project DEIR (Project). I have not received a return call yet and since the message had two areas of concern about the Project, I want to restate them via email.

C.2 Projects that are within 1000 feet (ft.) of a school are required to include a student analysis in the health risk assessment (HRA). Brooktree Elementary School is 900 ft from the project site. Additionally, the Project construction site could emit hazardous air emissions, and per health and safety code requirements, the city must consult with the school district about any potential impacts or significant finding in the DEIR. Please incorporate a student analysis into the HRA and consult with the school district as required by code. For more information about school requirements, the link to the school guidelines is located on the Air District's website under CEQA Resources/Handbooks and Guidelines https://www.epa.gov/schools/view-download-or-print-school-siting-guidelines.

C.3 The DEIR did not state whether the site would be used for cold storage or if there is a possibility that trucks visiting the site would use transportation refrigeration units (TRUs) at some point in the future. TRUs can contribute a significant amount of local air pollution. We encourage the City to restrict TRUs for future operations via conditions of approval or site lease agreements. Additionally, the City should prohibit the use of TRUs on the property unless an amendment is granted to the conditions of approval or site lease agreement.

Please contact me if you have questions.

Sincerely,

Andrea

Andrea Gordon
BAAQMD
375 Beale Street, Suite 600
San Francisco, CA 94105
agordon@baaqmd.gov |415.749.4940

Letter D

Department of Toxic Substances Control

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

August 22, 2022

Ms. Cassandra van der Zweep
City of San Jose
Department of Planning, Building, and Code Enforcement
200 E. Santa Clara Street, 3rd Floor
San Jose, CA 95113
Cassandra.VanDerZweep@sanjoseca.gov

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE QUME AND COMMERCE PROJECT – DATED JULY 2022 (STATE CLEARINGHOUSE NUMBER: 2022010603)

Dear Ms. van der Zweep:

The Department of Toxic Substances Control (DTSC) received a Draft Environmental Impact Report (EIR) for the Qume and Commerce Project (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, and/or importation of backfill soil. D.1

DTSC recommends that the following issues be evaluated in the Hazards and Hazardous Materials section of the EIR:

1. The EIR acknowledges that historic site activities have resulted in the release of hazardous wastes/substances on the project site. Historic site uses detailed in the EIR included agriculture, office buildings, research and development, manufacturing/assembling, and other commercial purposes. The Project site is currently developed with an industrial/business park complex containing three buildings that total approximately 425,433 square feet and is used by a medical device company. Adjacent uses are generally comprised of commercial and industrial properties. D.2

   According to the EIR, a Phase I Environmental Site Assessment, a Soil and Soil Vapor Investigation, Agricultural Chemical Sampling Report were prepared by Ardent Environmental Group, Inc. to address potential impacts concerning hazards and hazardous materials associated with implementation of the Project.

DTSC recognizes the rationale for these activities given the historic and current uses of the Project site and adjacent properties. However, the EIR does not identify an appropriate agency that has provided regulatory oversight and concurrence that the proposed project is protective of human health and the environment.

D.3 A regulatory agency such as DTSC or Regional Water Quality Control Board (RWQCB), or a qualified local agency that meets the requirements of Assembly Bill 304 (AB304) should provide regulatory concurrence that the site is safe for construction and the proposed use. The City of San José Environmental Services Department does not currently meet the requirements of a local agency that meets the criteria of AB304.

D.4 Table ES-1: Summary of Significant Impacts and Mitigation Measures states construction activities associated with the proposed Project would disturb potentially volatile organic compound (VOC) contaminated soils beneath building slabs within proposed parcels 244-15-026 and 244-15-003, which could result in impacts to construction workers and future site occupants from exposure to soil and/or soil vapor that is in exceedance of the Commercial/Industrial Environmental Screening Levels for VOCs. The first mitigation measure includes preparation of a Construction Health and Safety Plan (Plan) that shall be prepared by a qualified environmental professional and submitted to the City of San José Environmental Services Department. This Plan should be submitted to DTSC or other qualified regulatory agency for review and approval. Appropriate regulatory oversight is necessary to ensure the health of construction workers and the surrounding community is protected during construction activities.

D.5 The second mitigation measure addressing VOC contaminated soil is for the applicant to conduct additional soil gas testing in the areas where VOC exceedances were detected to determine soil gas concentrations and to submit the data to the City of San José Environmental Services Department for review. The EIR states that if the results from soil gas testing indicate that concentrations of VOCs are above applicable regulatory environmental screening levels for an industrial use, that the applicant shall obtain regulatory oversight from the RWQCB, DTSC, or the Santa Clara County Department of Environmental Health (SCCDEH). DTSC, RWQCB, or a qualified local agency should provide regulatory oversight of soil gas sampling activities, including planning, from the onset. Appropriate regulatory oversight is necessary to ensure the nature and extent of contamination is determined and evaluated using current industry standards.

D.6 The EIR should identify the mechanism(s) to initiate any required investigation and/or remediation and the qualified government agency that will be responsible for providing appropriate regulatory oversight.

For DTSC or RWQCB oversight, the Request for Lead Agency Oversight Application should be completed and submitted.

D.7 2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil, DTSC recommends collecting soil samples for lead analysis under guidance from an approved oversight agency prior to performing any intrusive activities for the project described in the EIR.

D.8 3. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material*.

D.9 DTSC appreciates the opportunity to comment on the EIR. Should you choose DTSC to provide oversight for any environmental investigations, please visit DTSC's Site Mitigation and Restoration Program page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at DTSC's Brownfield website.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Letter E

From: Raihan Saleh <RSaleh@valleywater.org>
Sent: Monday, August 22, 2022 3:52 PM
To: Keyon, David <david.keyon@sanjoseca.gov>; Garg, Tina <Tina.Garg@sanjoseca.gov>
Cc: Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>
Subject: H21-040, T21-040, ER21-154 Qume and Commerce Valley Water Comments

Hello,

Valley Water has reviewed the Draft Environmental Impact Report for 2222 and 2350 Qume Drive and 2150 Commerce Drive Development project. Based on our review of the report we have the following comments:

1. Valley Water records show 1 active well on APN:244-15-003, 5 active wells on APN:244-15-020, and 1 active well on APN:244-15-026. If the wells will continue to be used following permitted activity, they must be protected so that they does not become lost or damaged during completion of permitted activity. If the wells will not be used following permitted activity, it must be properly destroyed under permit from the District. While the District has records for most wells located in the County, it is always possible that a well exists that is not in the District's records. If previously unknown wells are found on the subject property during development, they must be properly destroyed under permit from the District or registered with the District and protected from damage. Additionally, it should be clarified that well construction, including borings 45 feet or more in depth, and destruction permits are required under Valley Water's Well Ordinance 90-1. Under Valley Water's Water Resources Protection Ordinance, projects within Valley Water property or easements are required to obtain permits. E.1
2. The water use comparison uses 2020. Given this is currently an office building, was 2020 use pretty low compared to historic use at the site because of COVID? What is the change going to be compared to a more normal year? E.2
3. Water use efficiency is a key pillar of Valley Water's program to maintain and improve water supply reliability into the future. Valley Water recommends that the developers include water efficient appliances and landscaping. Where feasible, landscaping should get fed with recycled water and the developer could discuss with San Jose the feasibility of a hook up to the South Bay's recycled water system. In addition, Valley Water recommends the developer include recommended actions from our Model New Development Water Efficient Ordinance. E.3

If there are any further questions or concerns please contact Raihan Saleh at rsaleh@valleywater.org and reference Valley Water file 34633.

RAIHAN SALEH
ASSISTANT ENGINEER I
Community Projects Review Unit
Tel. (408) 630-2693

Santa Clara Valley Water District is now known as:

Clean Water • Healthy Environment • Flood Protection

5750 Almaden Expressway, San Jose CA 95118
www.valleywater.org

Letter F

Subject: RE: Qume and Commerce EIR

From: KKLLC Admin <admin@kanyonkonsulting.com>
Sent: Sunday, July 17, 2022 7:50 PM
To: Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>
Subject: Qume and Commerce EIR

[External Email]

miSmin Tuuhis [Good Day]

Kan rakat Kanyon Sayers-Roods. I am writing this on behalf of the Indian Canyon Band of Costanoan Ohlone People as requested, responding to your letter

As this project's Area of Potential Effect (APE) overlaps or is near the management boundary of a potentially eligible cultural site, I am interested in consulting and voicing our concerns. With some instances like this, usually we recommend that a Native American Monitor and an Archaeologist be present on-site at all times during any/all ground disturbing activities. The presence of a Native monitor and archaeologist will help the project minimize potential effects on the cultural site and mitigate inadvertent issues.

Kanyon Konsulting, LLC has numerous Native Monitors available for projects such as this, if applicable, we recommend a Cultural Sensitivity Training at the beginning of each project. This service is offered to aid those involved in the project to become more familiar with the indigenous history of the peoples of this land that is being worked on. F.1

Kanyon Konsulting is a strong proponent of honoring truth in history, when it comes to impacting Cultural Resources and potential ancestral remains, we need to recognise the history of the territory we are impacting. We have seen that projects like these tend to come into an area to consult/mitigate and move on shortly after - barely acknowledging the Cultural Representatives of the territory they steward and are responsible for. Because of these possibilities, we highly recommend that you receive a specialized consultation provided by our company as the project commences, bringing in considerations about the Indigenous peoples and environment of this territory that you work, have settled upon and benefit from.

As previously stated, our goal is to Honor Truth in History. And as such we want to ensure that there is an effort from the project organizer to take strategic steps in ways that #HonorTruthinHistory. This will make all involved aware of the history of the Indigenous communities whom we acknowledge as the first stewards and land managers of these territories.

Potential Approaches to Indigenous Cultural Awareness/History:

➢Signs or messages to the audience or community of the territory being developed. (ex. A commerable plaque, page on the website, mural, display, or an Educational/Cultural Center with information about the history/ecology/resources of the land)

➢Commitment to consultation with the Native Peoples of the territory in regards to presenting and messaging about the Indigenous history/community of the land (Land Acknowledgement on website, written material about the space/org/building/business/etc, Cultural display of cultural resources/botanical knowledge or Culture sharing of Traditional Ecological Knowledge - Indigenous Science and Technology)

➢Advocation of supporting indigenous lead movements and efforts. (informing one's audience and/or community about local present Indigenous community)

We look forward to working with you.

Tumsan-ak kannis [Thank You]

F.1 Kanyon Sayers-Roods

Consultant / Tribal Monitor [ICMBCO]

Kanyon Konsulting, LLC

August 16, 2022

Advocates for the Environment

A non-profit public-interest law firm
and environmental advocacy organization

Cassandra Van der Zweep, Supervising Planner
City of San Jose
200 East Santa Clara Street
San Jose, CA 95113

Via U.S. Mail and email to Cassandra.vanderzweep@sanjoseca.gov

re: Comments on Draft Environmental Impact Report for Qume Commerce Project, SCH No. 2022010603

Dear Ms. Van der Zweep:

G.1 Advocates for the Environment submits the comments in this letter regarding the proposed Qume Commerce Project (**Project**) located at 2222 and 2350 Qume Drive and 2150 Commerce Drive in the City of San José, Santa Clara County, California. Currently, the project site is developed with an industrial/business park complex containing three buildings comprising 425,433 square feet. The Project involves demolishing all existing buildings and removing the mature landscape vegetation—including 620 trees—and constructing four new industrial warehouse buildings, totaling 714,419 square feet. We have reviewed the Draft Environmental Impact Report (**DEIR**) released in July 2022 and submit comments regarding the sufficiency of the DEIR's Greenhouse-Gas (**GHG**) analysis under the California Environmental Quality Act (**CEQA**).

The City Should Require the Project to be Net-Zero

G.2 Greenhouse gas emissions from buildings, including indirect emissions from offsite generation of electricity, direct emissions produced onsite, and from construction with cement and steel, amounted to 21% of global GHG emissions in 2019. (IPCC Sixth Assessment Report, Climate Change 2022, WGIII, Mitigation of Climate Change, p. 9-4.) This is a very large portion of global GHG emissions. It is much less expensive to construct new building projects to be net-zero than to obtain the same level of GHG reductions by retrofitting older buildings. Climate damages will keep increasing until we reach net zero GHG emissions, and there is a California state policy requiring the state to be net-zero by 2045. It therefore makes no sense to construct new buildings that are not net-zero.

Two of the largest mixed-use development projects in the history of California, Newhall Ranch (now FivePoint Valencia), and Centennial (part of Tejon Ranch) decided, after environmental groups sued and won under CEQA, to move forward as net-zero communities.

This proves it is feasible. The Applicant for this project should do the same. We urge the City to adopt net-zero as the GHG significance threshold for this project, and require full fair-share litigation. The CARB 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." (p. 101.) G.2

Moving this Project forward as a net-zero project would be the right thing for the City to do, and would also protect the City and the Applicant from CEQA GHG litigation.

GHG Significance Analysis

Although the Greenhouse Gas Emissions Assessment, Appendix I to the DEIR, included a summary output of GHG emissions from CalEEMod, the DEIR itself failed to include key information regarding the Project's overall operational emissions. It is customary to amortize construction emissions for 30 years (an approximate building lifespan) and add it to the total annual operational emissions. As applied here, this would result in annual emissions of approximately 9,441.58 metric tons carbon dioxide equivalent (**MTCO2e**).[1] The DEIR included the following two GHG significance thresholds: "Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment" (**GHG-1**) and "Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases" (**GHG-2**) (DEIR, 108-109). G.3

An agency must consider a project's land use patterns over time to reasonably evaluate the GHG emissions impacts (*Cleveland Nat'l Forest Foundation v. San Diego Ass'n of Governments* (2017) 3 Cal.5th 497, 513). Therefore, the full analysis of the GHG impact of the Project should likewise include the likely GHG emissions through the year 2055, because buildings on average last about 30 years and the first operational year is predicted to be 2025. Thus, the Project must show consistency on a long-term scale—including climate goals for 2050—to comply with CEQA. G.4

Threshold GHG-2 Analysis

Under threshold GHG-2, the City analyzed consistency with the three following documents: City of San José 2030 Greenhouse Gas Reduction Strategy (**GHGRS**) Compliance Checklist, 2017 CARB Scoping Plan, and Plan Bay Area. However, the Project would be inconsistent with these identified applicable plans, and therefore this discussion of consistency is G.5

[1] Emissions metrics obtained from CalEEMod summary printouts.
Project's mitigated construction emissions = 989.7621 MTCO2e ÷ 30 years = 32.99 MTCO2e/year construction emissions. Total mitigated operational emissions = 9,408.5851 MTCO2e/year
9,408.5851 MTCO2e/year + 32.99 MTCO2e/year = 9,441.5751 MTCO2e/year, rounded to the nearest hundredths-place.

G.5 inaccurate. Further, the language of the adopted threshold demands that the EIR analyze the Project's consistency with all applicable plans, not just a select number of plans that the lead agency prefers. Overall, the City should have concluded that the impact would be significant under threshold GHG-2 and must adopt mitigation to the fair share extent.

Consistency with the GHG Reduction Strategy Compliance Checklist

The discussion of whether the Project exceeds threshold GHG-2 was centered on the GHGRS as an applicable plan. The GHGRS consistency analysis exclusively focused on a brief procedure, consistency checklist (**Checklist**), contained in the GHGRS which purportedly analyzes a project's consistency with the GHGRS to bypass the consistency analysis required by the threshold GHG-2 that the lead agency adopted. The Checklist declares that conforming with the steps, demonstrates that a project's contribution to cumulative GHG emissions may be determined not to be cumulatively considerable under CEQA Guidelines sections 15064(h)(3), 15130(d), and 15183(b).

G.6

The Checklist largely disregards the GHGRS goals by suggesting that adherence to the Checklist alone is sufficient to demonstrate consistency with the GHGRS. When adhered to, this procedure allows consistency with the GHGRS to be analyzed without considering any of the guidance within the GHGRS. As a result, the DEIR circumvented analysis of San Jose's adopted emission intensity target for 2030, as identified in the GHGRS, which is 2.94 MTCO2e per service population. Because the Project's net operational GHG emissions minus existing emissions are estimated to be 5173.352 MTCO2e/year, and the Project will have 715 employees, the Project's per-capita GHG emissions would be approximately 7.24 MTCO2e/service population, greatly exceeding San Jose's emissions intensity from 2017, as well as the future target[2].Therefore, the Project is not compliant with the GHGRS emissions target overall, and compliance with the Checklist cannot, in itself, cure this defect.

Moreover, although the DEIR purports to comply with the Checklist, the Project has not sufficiently demonstrated compliance with the Checklist. Therefore, even if the Checklist is deemed a sufficient substitute for the GHGRS itself, the Project is not consistent with the GHGRS because it does not comply with all of the mandatory measures on the Checklist.

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[2] Emissions metrics obtained from CalEEMod summary printouts and service population obtained from the DEIR.
Project's mitigated operational emissions = 9,408.5851 MTCO2e
Existing site emissions (baseline) = 4,235.235 MTCO2e
9,408.5851 MTCO2e – 4,235.235 MTCO2e = 5,206.342 MTCO2e
5,206.342 MTCO2e ÷ 715 employees = 7.24, rounded to the nearest hundredths-place.
San Jose 2017 Emissions Inventory intensity = 3.96 MTCO2e/service population (GHGRS p. 35)
2030 Emissions Intensity Target = 2.94 MTCO2e/service population (GHGRS p. 51).

According to the descriptions and explanations below each Checklist measure, the Project would not be compliant with three of the required measures identified in the Checklist.

First, MS-2.7 involves "encourag[ing] installation of solar panels or other clean energy power generation sources over parking areas." The lead agency responded by saying that tenants "would be able to take advantage of incentives that are in place at the time of construction," without actually including any infrastructure that would encourage the installation of solar panels. For example, simply constructing an overhead canopy to provide space for solar panel installation would encourage the installation of solar panels in parking lots. The lead agency made no effort to demonstrate voluntary actions which would comply with this measure other than encouraging factors that are already in existence and have no relation to the Project, or more specifically, parking areas on the Project site. G.7

Second, MS-16.2 requires promoting "neighborhood-based" distributed renewable energy. However, the lead agency's response reflects an individual Project-based renewable energy effort, which is not the same as the community-based strategy outlined in this measure. As this measure requires a community effort to provide an alternate means of investing in renewable energy to groups and individuals who may otherwise not be able to install systems on their own property, to be compliant with this measure the lead agency must demonstrate that they would promote a community effort in some other way beyond simply using renewable energy sources for the Project. G.8

Third, TR-8.5 intends for projects to "[p]romote participation in car share programs to minimize the need for parking spaces in new and existing development." However, rather than discussing the implementation of car share programs, the explanation of the Project's compliance with this measure made no mention of car share programs in the response, and rather focused on the availability of bike parking spaces and the fact that the Project would be located near existing transit and bicycle facilities. To be compliant with this measure, the Project should take some active role in car share programs specifically, for its future tenants and their employees to be encouraged to share cares when commuting to work. G.9

Ultimately, this DEIR consistency analysis cannot stand because complying with the Checklist is not adequate to show consistency with the GHGRS. While the chosen threshold GHG-2 encourages comparison between the proposed project and relevant GHG emissions plans, it does not permit an applicable plan to circumvent CEQA Guidelines by prescribing its own separate procedure to demonstrate CEQA compliance. Therefore, the City must show consistency with all applicable plans, including the GHGRS generally, notwithstanding the Checklist procedure. G.10

Inconsistency with Other Applicable Plans

The DEIR briefly analyzed consistency with the 2017 Scoping Plan from the California Air Resources Board (**CARB**), but there are significant inconsistencies which the analysis failed to find. The Scoping Plan was developed to facilitate California's compliance with SB 32, which requires statewide GHG emissions to be reduced to 40% below 1990 levels by 2030 (Health & Safety Code § 38566). Although a discussion of consistency with the CARB 2017 Scoping Plan was briefly included in the DEIR, it notably omitted a discussion of how the Project is consistent with any of the goals, including the 2050 goal of 80% below 1990 levels. The 2017 CARB Scoping Plan sets out statewide goals for total GHG emissions targets of 6 MTCO2e/capita by 2030, and 2 MTCO2e/capita by 2050 (CARB Scoping Plan, p. 99). The Project's per service population metric of 7.24 MTCO2e/service population exceeds both the 2030 and 2050 CARB 2017 Scoping Plan targets. G.11

Additionally, because the statewide targets of 6 MTCO2e/capita by 2030 and 2 MTCO2e/capita by 2050 account for the GHG emissions from all sectors, including high-emission industries like oil refineries and cement manufacturers, any per-capita estimate purporting to be consistent with the 2017 CARB Scoping Plan for a warehouse this one must be significantly lower than the statewide goal.

The DEIR did not analyze consistency with Executive Order B-55-18. EO B-55-18 requires the State to achieve carbon neutrality—net zero GHG emissions—by 2050. The Project is inconsistent with EO B-55-18 because it will use gasoline and diesel and burning such non-renewable fuels results in substantial GHG emissions. Because the Project is inconsistent with the GHGRS, 2017 CARB Scoping Plan, and EO B-55-18, its emissions will be significant under Threshold GHG-2. Thus, the DEIR's conclusion of no significance violates CEQA. G.12 G.13

The Project's GHG Impact Should Include Vegetation

An EIR should include a "sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences" (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal. 4th 20, 26.) Here, in both the CalEEMod results printout and the DEIR itself, the analysis lacked sufficient detail about vegetation's impact on the overall GHG emissions. This deprives decision-makers of the opportunity to account for the full impact of tree removal and other site modifications to vegetation, which is likely to have an effect not only on the biological ecosystem but also on the sequestration capacity of the soil and foliage. G.14

CalEEMod Deficiency

CalEEMod was used as a model to estimate existing project emissions to serve as the baseline, as well as the expected construction and operational emissions for the proposed

Project. The CalEEMod summary printout was included in Appendix A of Appendix I to the DEIR, but it omitted the vegetation detail. The lead agency must provide sufficient detail to aid in the decision-making process. Here, this includes the outcome of the vegetation section by the CalEEMod analysis because the Project involves removing 640 trees, and this should be accounted for. CalEEMod treats tree removal as a net gain of GHG emissions from what otherwise would occur, so to leave this portion out is not only misleading, but also erroneous. CalEEMod should be rerun with the inclusion of vegetation to get a more accurate estimation of Project GHG emissions.

Further, within the vegetation analysis, CalEEMod has the capacity to estimate sequestration from healthy soils, or alternatively emissions from unhealthy soils, according to location, climate, and soil type. By not including the vegetation portion of the CalEEMod run, the outputs are not representative of the Project's full emissions.

G.14

Tree Removal Will Cause GHG Emissions

There is substantial evidence that tree removal, especially of the healthy, ordinance-sized trees on the property, will contribute to GHG emissions that would have not otherwise occurred but for the Project's construction and operations. The i-Tree Cooperative (consisting of the USDA Forest Service among other organizations[3]) allows the public to use a tool called the i-Tree Planting Calculator that gives an estimate for the emissions saved and sequestered by trees throughout the duration of a project's operations.[4] Using this calculator reveals that if the ordinance-size trees of good condition (or very good condition, as identified in the arborist report) identified for removal instead remained on the property for 30 years, they could sequester up to 344 MTCO2e.[5] Additionally, if the City allowed those large, healthy trees to remain, it could further avoid 154,412.6 pounds of CO2, or roughly 70 MTCO2e. However, because the lead agency may have more information regarding specifics of the trees to be removed and the site characteristics they are located, as well as the resources to do a full study, it is feasible for the City to estimate not only the largest and healthiest trees, but all of the trees on

[3] In addition to the USDA Forest Service, organizations involved in the i-Tree Cooperative include the Davey Tree Expert Co., National Arbor Day Foundation, Society of Municipal arborists, International Society of Aboriculture, and Casey Trees.

[4] https://planting.itreetools.org/

[5] According to a review of the Project's Arborist Report (Appendix E to the DEIR) by Advocates for the Environment, the 67 ordinance-sized trees of good or very good condition were identified for removal. The estimate used https://planting.itreetools.org/, set to the location of San Jose, Santa Clara County, California, with tree specifications tree type, diameter at breast height (**DBH**), and condition input, the rest of the values left at default. For Project Parameters, Energy Emissions Factors of 210 CO2 lbs/MWh for electricity and 53.02 for natural gas were from the City of San Jose 2017 Inventory of Community Greenhouse Gas Emissions. The resulting output was 154,412.6 lbs CO2 (70.04 MTCO2e) avoided and 758,677.4 lbs CO2 (or 344.13 MTCO2e) sequestered.

G.14 the site. This estimate is likely to be more accurate and even larger. Additionally, i-Tree outputs can be used as inputs to CalEEMod to integrate with the rest of the Project's quantified emissions.

G.15 Altogether, these potential benefits of keeping the trees simultaneously represent tree removal emissions, and therefore if it is not added to CalEEMod inputs, it should be considered as demolition emissions of the Project. Just as construction and demolition emissions are typically amortized over the average lifespan of a building, these emissions related to the tree removal should be divided by 30 years and added to the existing calculation of demolition emissions. Tree removal would account for roughly 30% of the updated estimate of the Projects' construction and demolition emissions, a notable contribution.[6]

CEQA Biological Impact Significance Analysis

The DEIR indicated a less than significant biological impact, but this is an erroneous conclusion. Although the lead agency analyzed the impact according to six significance thresholds, a determination of significance under just one of those thresholds is enough to conclude that the overall biological impact would be significant. And that is the issue presented here because the tree removal proposed as part of the Project would have a severe impact on bird populations; this impact is directly relevant to Threshold Bio-4, which asks whether the Project would "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites."

G.16

Significant Impact on Nesting Birds

The DEIR mentions four species of birds which use the Project site and surrounding areas as a nesting site and rely upon the trees there, many of which are mature. The identified species that will undoubtably be impacted by tree removal include the House Finch, Northern Mockingbird, Anna's Hummingbird, and California Towhee. The DEIR discounts the impact to any wildlife corridors and nesting sites, indicating that the Project site is disturbed, and as such is not amenable to many species of wildlife, especially those that are of protected status or immediate concern. But Threshold Bio-4 makes no distinction based on protected status, and the only apparent reservation is that the wildlife species be a "native resident" or that the nursery sites represent "native wildlife." Both are the case here, as 21 identified native trees are planned

[6] 414.17 MTCO2e ÷ 30 years = 13.80 MTCO2e/year
Total Mitigated Construction Emissions (CalEEMod) = 989.7621 MTCO2e
989.7621 MTCO2e ÷ 30 years = 32.99 MTCO2e/year
32.99 MTCO2e/year + 13.80 MTCO2e/year = 46.79 MTCO2e/year
13.80 MTCO2e ÷ 46.79 MTCO2e/year = 0.294, or about 30% rounded to the nearest percent

to be cut down through the implementation of this Project, which make up nesting sites for native birds, and the existence of the non-native tree community allows for the support of the native birds. Although the definition of "native" can be disputed, when applied here it is clear that, as the House Finch, Anna's Hummingbird, and California Towhee are all native to California, and the Northern Mockingbird is native to the US, there are at least some native birds that rely on the nesting sites.

G.16

The Project features include replacing the removed trees with 339 new 24-inch box trees, but such small trees will not provide the nesting habitat necessary for the local birds until the trees have grown substantially, a process that will take decades. It only roughly replaces the number of trees by half the amount that is being removed and exacerbated by the fact that many of the current site's trees are tall and several are mature, so even of the trees that are being replaced it is not sufficient to substitute them in capacity for nesting habitat.

G.17

The finding of less than significant impact with mitigation incorporated implies that the DEIR is discounting the severity of the impact that it will have on local birds. Even ecologically disturbed, urban communities are important ecosystems that are key to maintaining wildlife, and existing habitat disruption does not warrant further destruction of this extraordinary scale.

Suggested Biological Mitigation Measures

CEQA requires mitigation measures to be at least partially effective at mitigating the environmental impact, but the mitigation measures identified for Threshold 4 of the biological significance analysis are unlikely to achieve any better outcome for the nesting birds on site.

Mitigation Measure 1 is focused on the well-being of the trees, but comprehensive studies should have already been completed before the decision to cut down the majority of the trees on and surrounding the Project site. The failure to complete such an accurate analysis before incorporating this as a Project feature would be a violation of CEQA by not allowing the public important information and decision-makers the necessary details to make an informed decision.

G.18

If the DEIR does contain a complete and accurate analysis of the trees to be cut down, a Tree Protection Plan would not add any protections in that it would not ensure that any less trees would be cut than already chosen to cut down. Indeed, it could have a positive impact on birds by ensuring that, the health is maintained in the 51 trees chosen to remain, and that the tree loss is limited to 640, but this does not mitigate the already severe impact to bird populations of removing so many trees all at once.

G.19

Overall, these two mitigation measures would not be sufficient to deem the remaining impact "less than significant." The lead agency should determine that the Project has a significant impact under this threshold, requiring mitigation to less than significant levels. And there is one apparent and feasible means to do so. Assuming that the Project maintains its goal of cutting down 640 of the existing Project trees, it should replace them with at least the

G.20

G.20 equivalent number of trees, perhaps in locations that are more preferable for the planners but nonetheless provide roughly the equivalent amount of shelter for nesting birds that are accustomed to living on the site and surrounding areas. While payment of fees in-leu of replacing the remaining 529 24-inch trees that the Project will not replant (as required by the City's tree replacing ratios) may satisfy the City's Standard Permit Conditions for Tree

G.21 Replacement, it is not sufficient to mitigate the Project's impact on the native bird populations, especially given that the total number of trees will effectively be reduced by about 45%, from 702 to 390.[7] Observing the trees and respecting bird nests in the remaining and newly planted trees is not going to eliminate the significant impact of culling the number and reducing the age of the trees on the Project site (and surrounding area) to be removed by the Project.

Alternatives

G.22 CEQA requires an EIR to "describe a range of reasonable alternatives" to "avoid or substantially lessen any of the significant effects of the project" (14 CFR §15126.6). An adequate discussion of alternatives should include renovation of the three existing buildings rather than demolition, because building retrofit and renovation can lower GHG emissions for nearly all buildings.[8] Further, renovated buildings have the greatest short-term GHG savings because they have fewer materials inputs.[9] The City did not account for the GHG impact of

G.23 demolition. Had the EIR found a significant impact of GHG overall, as it should have according to the comments above, it would need to discuss reasonable alternatives to substantially lessen the GHG impact. Renovation of the three existing buildings is reasonable because the Project goals would be achieved by constructing less new buildings, and contribute to less GHG emissions.

Conclusion

G.24 For the reasons given in this letter, the city should update the DEIR to remedy the defects we have identified. Notably, the City should have concluded that the Project would have

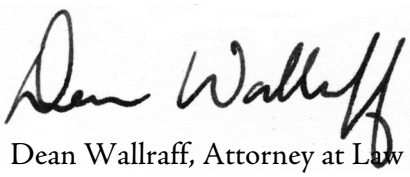
[7] 702 trees (existing) − 390 trees (remaining after Project construction) = net 312 trees removed
312 ÷ 702 = 0.444… or 44.44%

[8] Preservation Green Lab. "The Greenest Building: Quantifying the Environmental Value of Building Reuse," 2011, p. 66. "[R]ehabilitation and retrofit still outperform new construction, yielding fewer impacts over a 75-year lifespan (see Figures 11 – 14). This is true for all impact categories and building types, except the warehouse-to-multifamily conversion case study." https://living-future.org/wp-content/uploads/2016/11/The_Greenest_Building.pdf

[9] Preservation Green Lab. "The Greenest Building: Quantifying the Environmental Value of Building Reuse," 2011, p. 72. "In particular, renovated buildings with fewer material inputs have the potential to realize the greatest short-term carbon savings." https://living-future.org/wp-content/uploads/2016/11/The_Greenest_Building.pdf

a significant GHG emissions impact because it is not consistent with applicable plans for the reduction of GHGs, and it would have a significant biological impact because the reduction of trees would negatively impact bird populations. Therefore, the EIR ought to include all feasible mitigation to reduce the GHG emissions to the fair share extent and limit biological impact to less-than-significant levels, as required by CEQA. Also, please add Advocates for the Environment to your list of interested parties so that we may be notified of further action regarding the Qume Commerce Project. G.24

Sincerely,



Dean Wallraff, Attorney at Law
Executive Director, Advocates for the Environment

10211 Sunland Blvd., Shadow Hills, CA 91040 (818) 650-0030 X101 dw@aenv.org

February 1, 2023

Advocates for the Environment

A non-profit public-interest law firm
and environmental advocacy organization

Cassandra Van der Zweep, Supervising Planner
City of San Jose
200 East Santa Clara Street
San Jose, CA 95113

Via U.S. Mail and email to Cassandra.vanderzweep@sanjoseca.gov

re: Withdrawal of opposition to Qume & Commerce Project

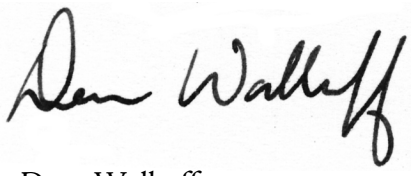
Dear Ms. Van der Zweep:

I write on behalf of Advocates for the Environment, regarding the Qume and Commerce Project (the **Project**, SCH Number 2022010603).

G.25

Advocates for the Environment hereby withdraws its August 16, 2022 comment letter and no longer opposes the Project. We request that the City not include our comment letter in the Final EIR.

Sincerely,



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August 19, 2022

Cassandra van der Zweep
Department of Planning, Building and Code Enforcement
200 East Santa Clara Street
San Jose, CA 95113

VIA EMAIL TO:
Cassandra.vanderZweep@sanjoseca.gov

Subject: Comments on Qume and Commerce Project EIR (SCH NO. 2022010603)

Dear Ms. van der Zweep,

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the proposed Qume and Commerce Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance (GSEJA). Also, GSEJA formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877.

H.1

1.0 Summary

The project proposes the construction and operation of four new industrial warehouse buildings with associated incidental office use totaling 714,491 square feet (sf) on an approximately 32.80-gross acre site. There will be approximately 694,491 sf of total warehouse space and 20,000 sf of total office space. The buildings are programmed and designed to attract users such as logistics, e-commerce, warehouse/distribution and wholesaling, and industrial services. The project is proposed to operate 24 hours a day, daily.

2.0 Project Description

H.2

The EIR does not include a floor plan, grading plan, or detailed site plan. The basic components of a Planning Application include a site plan, floor plan, grading plan, elevations, and written narrative. The site plan provided in Figure 2-5 has been edited for public review and does not provide any detailed information such as the earthwork quantity notes, parking requirements, site coverage, floor area ratio, etc. The edited version of the site plan inserted for public review is meaningless and provides no useful information. The EIR has excluded these required application items from public review, which does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)). Incorporation by reference (CEQA § 15150 (f)) is not appropriate as these documents contribute directly to analysis of the problem at hand. Providing this information is vital as the Project Description states that the project "requires approximately 5,000 cubic yards of soil material to be exported from the Project site," and there is no method for public verification of this statement. The EIR must be revised to include all application items for review, analysis, and comment by the public and decision makers.

3.0 Environmental Analysis

Effects Found Not to be Significant - Energy

H.3

California's Building Energy Code Compliance Software (CBECC) is the State's only approved energy compliance modeling software for non-residential buildings in compliance with Title 24[1]. CalEEMod is not listed as an approved software. The spreadsheet-based modeling in Appendix G does not comply with the 2022 Building Energy Efficiency Standards and under-reports the project's significant Energy impacts and fuel consumption to the public and decision makers. Since the EIR did not accurately or adequately model the energy impacts in compliance with Title 24, a finding of significance must be made. A revised EIR with modeling using the approved software (CBECC) must be circulated for public review in order to adequately analyze the project's significant environmental impacts. This is vital as the EIR utilizes CalEEMod as a source in its methodology and analysis, which is clearly not the approved software.

Effects Found Not to be Significant - Population and Housing

[1] California Energy Commission 2022 Energy Code Compliance Software https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1

H.4 The IS states that the project will employ "an estimated total of 715 employees" based on the City's employee generation rate for industrial space. The source for this calculation is noted as the City's 2040 General Plan Draft EIR[2] calculation that industrial uses generate 1 employee per 1,000 square feet of building area. However, our review of the City's General Plan EIR did not determine that this calculation is located within the document. A revised EIR must be prepared to disclose the page number within the City's General Plan EIR in order to comply with CEQA's requirements for meaningful disclosure and incorporation by reference as the validity of the source calculation contributes directly to analysis of the problem at hand (CEQA § 15150 (f)). Additionally, a revised EIR must provide a calculation of the construction jobs generated by the proposed project in order to provide an adequate, accurate environmental analysis.

H.5 The EIR also utilizes the unsubstantiated claim that the existing business at the project site has 1,150 on-site employees to determine that the proposed project will have a less than significant impact. The EIR has not provided any documentation of the number of employees of the existing business, which does not comply with CEQA's requirements for meaningful disclosure and adequate informational documents. Providing meaningful evidence to support the claim that the existing business at the project site has 1,150 on-site employees is vital as this information is also utilized for other areas of environmental analysis, such as Transportation. The EIR must be revised to include meaningful evidence to support the claim that the existing business at the project site has 1,150 on-site employees.

H.6 Further, the EIR concludes that impacts to Population and Housing will be less than significant because "employees during both construction and operational phases of the Project are *expected* to come from the *surrounding area*." The "surrounding area" of the project site is undefined and relying on the entire labor force within an undefined distance, notably the greater Bay Area region, to fill the project's construction and operational jobs will increase VMT and emissions during all phases of construction and operations. A revised EIR must be prepared to account for longer worker trip distances. Additionally, the revised EIR must also provide demographic and geographic information on the location of qualified workers to fill these positions in order to provide an accurate environmental analysis.

H.7 The EIR does not discuss the project's compliance with the Association of Bay Area Governments (ABAG) RTP/SCS (Plan Bay Area 2050). Plan Bay Area 2050's Growth Pattern[3] notes that the

[2] City of San José. Envision 2040 General Plan Draft EIR https://www.sanjoseca.gov/home/showpublisheddocument/22041/636688304350830000
[3] Plan Bay Area 2050 Growth Pattern https://www.planbayarea.org/sites/default/files/FinalBlueprintRelease_December2020_GrowthPattern_Jan2021Update.pdf

H.7 East Santa Clara County area (portions of Milpitas and San Jose including the project site) will add 49,000 jobs between 2015 - 2050. Utilizing the EIR's calculation of 715 employees, the project represents 1.5% of the East Santa Clara County area employment growth from 2015 - 2050. A single project accounting for this amount of the projected employment and/or population over 35 years represents a significant amount of growth. The EIR must be revised to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2015 and projects "in the pipeline" in San Jose and Milpitas to determine if the project will exceed Plan Bay Area 2050's employment and/or population growth forecast for East Santa Clara County.

H.8 Utilizing the City's February 2022 Development Activity Forecast[4] and assuming the EIR's assertion that industrial projects generate 1 employee per 1,000 square feet, it can be concluded that the City has forthcoming 920 employees from industrial projects constructed in 2020-21; 5,965 employees from industrial projects under construction; and 24,910 employees from industrial projects approved but not yet constructed for a total of 31,795 employees. Utilizing the cumulative industrial employment generated since 2020 and the proposed project, the City's 32,510 industrial employees represents 66.3% of its projected job growth from 2015-2050.

3.1 Air Quality and 3.4 Greenhouse Gas Emissions

Please refer to attachments from SWAPE for a complete technical commentary and analysis.

H.9 The EIR does not include for analysis relevant environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project. This is especially significant as the surrounding community is highly burdened by pollution. According to CalEnviroScreen 4.0[5], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability. The proposed project's census tract (6085504322) ranks worse than 61% of the rest of the state overall in pollution burden. The surrounding community, including Brooktree Elementary School and residences to the east, bears the impact of multiple sources of pollution and is more polluted than average on several pollution indicators measured by CalEnviroScreen. For example, the project census tract ranks in the 87th percentile for diesel particulate matter (PM) and 65th percentile for traffic impacts, which are both typically attributed to high rates of heavy truck traffic in the area.

[4] San Jose February 2022 Development Activity Forecast
https://www.sanjoseca.gov/home/showpublisheddocument/83462/637835432878970000
[5] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

The census tract ranks in the 99th percentile for impacts related to cleanup sites. Chemicals in the buildings, soil, or water at cleanup sites can move into nearby communities through the air or movement of water[6]. The census tract also ranks in the 93rd percentile for hazardous waste impacts. Hazardous waste generators and facilities contribute to the contamination of air, water and soil near waste generators and facilities can harm the environment as well as people[7]. The project census tract also ranks in the 90th percentile for impacts related to groundwater threats. People who live near contaminated groundwater may be exposed to chemicals moving from the soil into the air inside their homes[8]. H.9

Further, the census tract is a diverse community including 69% Asian-American, 10% African-American, and 7% Hispanic residents, which are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 41% of the census tract over age 25 has not attained a high school diploma, which is an indication that they may lack health insurance or access to medical care. The community has a high rate of linguistic isolation, meaning 89% of households speak little to no English and face further inequities as a result.

3.7 Transportation

Appendix L: Transportation states that thee City's VMT per employee threshold for industrial land uses is 14.37. The proposed project is anticipated to generate a VMT per employee of 14.82 (excluding any VMT reduction strategies). The City's VMT evaluation tool estimates that the project would exceed the City's industrial VMT per employee threshold and would trigger a significant VMT impact. Figures 4 and 5 within Appendix L provide the outputs of the project's analysis within the City's VMT evaluation tool. However, all inputs into the City's VMT evaluation tool are not depicted and must be included as part of a revised EIR in order to comply with CEQA's requirements for meaningful disclosure. This is vital as the City's Transportation Analysis Handbook[9] states that "when assessing an office or industrial project, the project's VMT is divided by the number of employees expected to occupy the project to determine the VMT per employee of the project." Appendix L does not provide the project's overall VMT. The CalEEMod output sheets within Appendix C: Air Quality Assessment concludes that the project will generate 10,225,959 VMT annually. Utilizing the EIR's calculation of 715 project employees, H.10 H.11

[6] OEHHA Cleanup Sites https://oehha.ca.gov/calenviroscreen/indicator/cleanup-sites
[7] OEHHA Hazardous Waste Generators and Facilities https://oehha.ca.gov/calenviroscreen/indicator/hazardous-waste-generators-and-facilities
[8] OEHHA Groundwater Threats https://oehha.ca.gov/calenviroscreen/indicator/groundwater-threats
[9] City of San Jose Transportation Analysis Handbook https://www.sanjoseca.gov/home/showdocument?id=28461

this is an average of 14,302 VMT per employee annually (14,302 / 260 working days = 55.00 average daily VMT per employee). This greatly exceeds the 14.82 miles of VMT per employee calculated by the Transportation analysis and the 13.65 miles of VMT per employee calculated after VMT reduction strategies are applied. A revised EIR must be prepared to provide an adequate and accurate VMT analysis in compliance with SB 743.

H.11

Further, Appendix L includes two VMT reduction strategies:

1. Construct an internal bicycle / pedestrian pathway connecting the cul-de-sacs at McKay Drive / Automation Parkway and Commerce Drive / Qume Drive.

2. Shift existing curblines along the Commerce Drive and Qume Drive frontages 10-feetinwards to achieve a future 40-feet curb-to-curb width along both streets.

The EIR does not provide a quantified analysis to demonstrate that implementation of these two items will reduce project VMT to less than significant levels. The site design overall does not lend itself to VMT reduction. For example, a tract map is proposed to parcel off each building. As these buildings are sold/leased, fences and gates may be constructed at the property lines and cut off internal pedestrian access. Further, based on San Jose Municipal Code Section 20.90.060, warehouses over 25,000 square feet require 1 parking space per 5,000 square feet of building area. The project's 714,491 square feet of buildings require only 143 parking spaces. The Project Description indicates that the site provides 412 parking spaces total. This is nearly three times the quantity of parking spaces required by the code. The project encourages employees to utilize single occupant vehicles in commuting by providing an excess of required parking spaces. The EIR has not provided adequate analysis to support the conclusion that implementation of these two VMT reduction strategies will reduce project VMT to less than significant levels. In contrast, the project design does not support VMT reduction strategies. A revised EIR must be prepared to include an adequate and quantified analysis of the project's VMT and any associated VMT reduction strategies.

H.12

Appendix L models the project as ITE Land Use Code 130 - Industrial Park. The project's trip generation analysis is given several trip reduction credits. The first credit reduces the project's vehicle trips by 8% for location-based mode sharing. The EIR applies this reduction because "the project location is designated as a "Suburb with multi-family housing" area with a vehicle mode share of 92 percent for industrial land uses." However, the EIR has not demonstrated that the project's census tract is designated as a "Suburb with multi-family housing." These designations are sourced from CARB's 2014 report: Quantifying the Effect of Local Government Actions on

H.13

H.13 VMT[10]. Even though the surrounding area may visually appear to be a suburb with multi-family housing in the project vicinity, that does not mean that the project census tract was designated as a "Suburb with multi-family housing" in the CARB data. The EIR must be revised to provide supporting evidence of the project census tract's CARB designation in order to demonstrate that the location-based mode sharing trip reduction credit is appropriate.

H.14 The next credit reduces the project's vehicle trips by giving credit for the vehicle trips generated by the existing business that operates at the project site. The existing business is modeled as ITE Land Use Code 760 - Research and Development Center. Appendix C within Appendix L includes Intersection, Roadway, and Freeway Traffic Counts for the project vicinity. Appendix E within Appendix L includes an Intersection Operations Analysis for the project vicinity. Nothing within Appendix L provides observed traffic counts at the existing business on the project site to provide an accurate dataset of the daily vehicle trips generated by the existing business.

H.15 The EIR concludes that the existing on-site business generates 3,876 average daily vehicle trips based on an unsubstantiated 1,150 employees and the ITE Land Use Code 760. The proposed project receives a trip reduction credit for these alleged existing vehicle trips, resulting in the proposed project generating negative 1,530 daily trips (net 0 daily trips). Even though Appendix L includes technical documents that observed traffic counts in the project vicinity, there were no traffic counts taken at the project site to observe the actual number of daily vehicle trips for the existing business. Analyzing the existing business based on an unsubstantiated number of employees is not acceptable. The EIR has not provided any documentation of the number of employees of the existing business, which does not comply with CEQA's requirements for meaningful disclosure and adequate informational documents. Additionally, trip generation analysis is based on the building use and the square footage of the building. Utilizing an unsubstantiated number of employees is not appropriate and does not provide an accurate analysis of daily vehicle trips. The EIR has misled the public and decision makers by providing traffic counts for the project vicinity but explicitly excluding any traffic counts of the existing project driveways, which would present an accurate count of existing daily vehicle trips at the project site. The EIR must be revised to remove the trip reduction credits for the existing business because the methodology is fundamentally flawed and not supported by substantial evidence.

H.16 Further, the EIR concludes that impacts to Population and Housing will be less than significant because "employees during both construction and operational phases of the Project are *expected* to come from the *surrounding area*." The "surrounding area" of the project site is undefined and relying on the entire labor force within an undefined distance, notably the greater Bay Area region,

[10] California Air Resources Board: Quantifying the Effect of Local Government Actions on VMT 2014. https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/09-343.pdf

H.16 to fill the project's construction and operational jobs will increase VMT and emissions during all phases of construction and operations. A revised EIR must be prepared to account for longer worker trip distances, which will be much longer than 13.65 VMT per employee utilized to conclude the project will have a less than significant impact.

Conclusion

H.17 For the foregoing reasons, GSEJA believes the EIR is flawed and a revised EIR must be prepared for the proposed project and circulated for public review. Golden State Environmental Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877.

Sincerely,

Gary Ho
Blum Collins & Ho, LLP

Attachments:

1. SWAPE Comment Letter

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

2656 29th Street, Suite 201
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August 18, 2022

Gary Ho
Blum Collins LLP
707 Wilshire Blvd, Ste. 4880
Los Angeles, CA 90017

Subject: Comments on the Qume and Commerce Project (SCH No. 2022010603)

Dear Mr. Ho,

We have reviewed the July 2022 Draft Environmental Impact Report ("DEIR") for the Qume and Commerce Project ("Project") located in the City of San Jose ("City"). The Project proposes to construct 694,491-square-feet ("SF") of warehouse space, 20,000-SF of office space, and 511 parking spaces on the 32.8-acre site. H.18

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

Hazards and Hazardous Materials

Inadequate Disclosure and Analysis of Impacts

According to a soil vapor study prepared for the Project, the site is contaminated with benzene, tetrachloroethelene (PCE), chloroform, and ethylbenzene. The impact is described in the DEIR as: H.19

> "Impact HAZ-1: Project construction activities would disturb potentially volatile organic compound (VOC)-contaminated soils beneath building slabs within proposed APNs 244-15-026 and 244-15-003, which could result in impacts to construction workers and future site occupants from exposure to soil and/or soil vapor that is in exceedance of the Commercial/Industrial Environmental Screening Levels for VOCs" (p. 9).

To address this contamination, the DEIR includes Mitigation Measure ("MM") HAZ-1 which states:

> "Prior to issuance of a building permit, the applicant shall conduct additional soil gas testing in the areas where VOC exceedances were detected to determine soil gas concentrations and shall submit this data to the City of San José Environmental Services Department for review. If the results of the soil gas testing reveal concentrations of VOCs above applicable regulatory environmental screening levels for an industrial use, applicant shall obtain regulatory oversight from the Regional Water Quality Control Board, Department of Toxic Substances Control, or the Santa Clara County Department of Environmental Health under their Site Cleanup Program. Implementation of the mitigations described above will reduce contaminant exposure impacts to construction workers and future site occupants from exposure to soil and/or soil vapor to a less than significant level through compliance with existing regulations" (p. 10).

H.19

The mitigation is inadequate because it is deferred until after Project approval and therefore fails to disclose existing site conditions, i.e., a complete understanding of the extent and the severity of the soil vapor contamination. The mitigation is also inadequate because any necessary soil removal activities will involve the use of heavy equipment, which will result in unaccounted-for air and air toxics emissions. Finally, the mitigation is inadequate because it fails to provide for warnings for the presence of California Proposition 65-listed chemicals (e.g., benzene and PCE) which are known by the State of California to cause cancer.

A revised EIR is necessary to include the results of a soil gas study that fully discloses contamination concentrations and evaluates potential worker exposures. The revised EIR should include regulatory approval of any studies that are necessary to evaluate contaminants that are above health-based screening levels. Finally, the revised EIR should provide for, as mitigation, Proposition 65-compliant warnings to workers that listed contaminants are present on the Project site.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 51). [1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

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

When reviewing the Project's CalEEMod output files, provided in the Air Quality Assessment ("AQ Assessment") as Appendix C to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions may be underestimated. A revised EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Failure to Model Potential Cold Storage Requirements

Review of the CalEEMod output files demonstrates that the "Bridge Qume" model includes the entirety of the warehouse space as unrefrigerated (see excerpt below) (Appendix C, pp. 71, 155, 98, 181).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Unrefrigerated Warehouse-No Rail	714.49	1000sqft	16.40	714,491.00
Parking Lot	490.73	1000sqft	11.27	490,730.00
City Park	5.13	Acre	5.13	223,462.80

As demonstrated above, the model fails to include the proposed refrigerated warehouse space. However, this is incorrect for two reasons.

First, according to the DEIR:

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> "Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power over the life of the Project, the energy required to convey water to, and wastewater from the Project site, the emissions associated with solid waste generated from the Project site, *and any fugitive refrigerants from air conditioning or refrigerators*" (emphasis added) (p. 108).

As demonstrated above, the DEIR indicates that the Project would generate operational greenhouse gas emissions from "any fugitive refrigerants from air conditioning or refrigerators." As such, the proposed Project may include refrigerated warehouse space.

Second, the DEIR indicates that the future tenants of the proposed warehouses are currently unknown. Specifically, the DEIR states:

> "The project description and future tenant for the four industrial use buildings is under negotiation at this time; however, the speculative project building could be a warehouse for distribution" (Appendix L, pp. 30).

Thus, as future site tenants are unknown, the proposed warehouse may require cold storage for operation. Therefore, as refrigerated warehouse space is the most energy-intensive, the Project should have included all of the proposed warehouse space as cold storage in order to conduct the most conservative analysis.

This presents an issue, as refrigerated warehouses release more criteria air pollutant and GHG emissions when compared to unrefrigerated land uses for three reasons. First, warehouses equipped with cold storage, such as refrigerators and freezers, are known to consume more energy when compared to

warehouses without cold storage.[2] Second, warehouses equipped with cold storage typically require refrigerated trucks, which are known to idle for much longer when compared to unrefrigerated hauling trucks.[3] Lastly, according to a July 2014 *Warehouse Truck Trip Study Data Results and Usage* presentation prepared by the South Coast Air Quality Management District ("SCAQMD"), hauling trucks that require refrigeration result in greater truck trip rates when compared to non-refrigerated hauling trucks.[4] Furthermore, as discussed by SCAQMD, "CEQA requires the use of 'conservative analysis' to afford 'fullest possible protection of the environment.'"[5] As such, the model should have included the warehouse land use as refrigerated in order account for the additional emissions that refrigeration requirements may generate.

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By failing to account for potential cold storage requirements, the model may underestimate the Project's operational emissions and should not be relied upon to determine Project significance. A revised EIR should be prepared to account for the possibility of refrigerated warehouse needs by all future tenants.

Failure to Model All Proposed Land Uses

According to the DEIR, the proposed Project includes 20,000-SF of office space (see excerpt below) (p. 18, Table 2-3):

Table 2-3: Proposed Building Summary

Building	Total Building Area (sf)	Warehouse Space (sf)	Office Space (sf)	Automobile Parking[1]	Trailer Parking	Dock Doors
1	358,180	353,180	5,000	156	61	39
2	202,735	197,735	5,000	150	27	21
3	83,751	78,751	5,000	53	4	10
4	69,825	84,825	5,000	53	7	10
Total	**714,491**	**694,491**	**20,000**	**412**	**99**	**80**

Notes
[1] Total parking includes ADA accessible, clean air vehicle, EV stalls

Source: Herdman Architecture + Design, February 2022.

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As such, the model should have included 20,000-SF of office space. However, review of the CalEEMod output files demonstrates that the "Bridge Qume" model includes all 714,491-SF as "Unrefrigerated Warehouse-No Rail" (see excerpt below) (Appendix C, pp. 71, 155, 98, 181).

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[2] "Warehouses." Business Energy Advisor, *available at*: https://ouc.bizenergyadvisor.com/article/warehouses.
[3] "Estimation of Fuel Use by Idling Commercial Trucks." Transportation Research Record Journal of the Transportation Research Board, January 2006, p. 8, *available at:* https://www.researchgate.net/publication/245561735_Estimation_of_Fuel_Use_by_Idling_Commercial_Trucks.
[4] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Mobile Source Committee, July 2014, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/finaltrucktripstudymsc072514.pdf?sfvrsn=2, p. 7, 9.
[5] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Inland Empire Logistics Council, June 2014, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2.

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Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Unrefrigerated Warehouse-No Rail	714.49	1000sqft	16.40	714,491.00
Parking Lot	490.73	1000sqft	11.27	490,730.00
City Park	5.13	Acre	5.13	223,462.80

As you can see in the excerpt above, the model fails to distinguish between the proposed warehouse and office spaces. These inconsistencies present an issue, as CalEEMod includes 63 different land use types that are each assigned a distinctive set of energy usage emission factors.[6] Thus, by failing to include the proposed office land use, the model may underestimate the Project's operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "Bridge Qume" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix C, pp. 72, 99, 156, 182).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	56.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	500.00	262.00
tblConstructionPhase	NumDays	35.00	172.00
tblConstructionPhase	NumDays	35.00	29.00

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As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix C, pp. 76, 103, 160, 187):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	4/1/2024	6/17/2024	5	56
2	Site Preparation	Site Preparation	6/18/2024	6/24/2024	5	5
3	Grading	Grading	6/25/2024	8/19/2024	5	40
4	Building Construction	Building Construction	8/20/2024	8/20/2025	5	262
5	Architectural Coating	Architectural Coating	2/3/2025	9/30/2025	5	172
6	Paving	Paving	8/21/2025	9/30/2025	5	29

As demonstrated above, the demolition phase is increased by 87%, from the default value of 30 to 56 days; the site preparation phase is decreased by 75%, from the default value of 20 to 5 days; the grading phase is decreased by 11%, from the default value of 45 to 40 days; the building construction phase is decreased by 48%, from the default value of 500 to 262 days; the architectural coating phase is increased by 391%, from the default value of 35 to 172 days; and the paving phase is decreased by 17%, from the default value of 35 to 29 days. As previously mentioned, the CalEEMod User's Guide requires

[6] "Appendix D – Default Data Tables" California Air Pollution Control Officers Association (CAPCOA), June 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. D-305.

any changes to model defaults be justified.[7] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Per construction timeline" (Appendix C, pp. 72, 99, 156, 182).

Furthermore, regarding the Project's anticipated construction schedule, the DEIR states:

> "The Project would be constructed over approximately 18 months, beginning in the second quarter of 2024. The Project would be constructed in one comprehensive phase and would follow a conventional construction sequence of demolition, site preparation, grading/earthwork, paving, building construction, and architectural coating. Operations would be anticipated to commence in the fourth quarter of 2025" (p. 21-22).

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However, these changes remain unsupported for two reasons.

First, the DEIR and associated documents fail to provide the above-mentioned construction timeline. As such, we cannot verify the revised construction phase lengths are accurate.

Second, while the DEIR indicates the total construction duration, the DEIR fails to mention or justify the individual construction phase lengths. This is incorrect, as according to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [8]

Here, as the DEIR only justifies the total construction duration of 18 months, the DEIR fails to provide substantial evidence to support the revised individual construction phase lengths. As such, we cannot verify the changes.

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).[9]

[7] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[8] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 12.
[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 31.

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.

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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.

Thus, by disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As such, there will be less construction activities required per day and, consequently, less pollutants emitted per day. As a result, the model may underestimate the peak daily emissions associated with some phases of construction 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 and operational emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the DEIR. In our updated model, we included all of the proposed land use types and proportionally altered the individual construction phase lengths to match the proposed 18-month construction duration.[10]

Our updated analysis estimates that the VOC and NO_X emissions associated with Project construction exceed the applicable BAAQMD thresholds of 54-pounds per day ("lbs/day"), as referenced by the DEIR (p. 51, Table 3.1-4) (see table below).

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SWAPE Criteria Air Pollutant Emissions

Construction	**VOC** (lbs/day)	**NO_X** (lbs/day)
DEIR	48.0	34.5
SWAPE	365.0	65.2
% Increase	661%	89%
SCAQMD Threshold	**54**	**54**
Exceeds?	***Yes***	***Yes***

As demonstrated above, construction-related VOC and NO_X emissions, as estimated by SWAPE, increase by approximately 358% and 89%, respectively, and exceed the applicable BAAQMD significance

[10] See Attachment B for updated air modeling.

thresholds. Thus, our updated modeling demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed by the DEIR. 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.

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Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR relies upon the Project's consistency with the City's 2030 Greenhouse Gas Reduction Strategy ("GHGRS") in order to conclude that the Project would result in a less-than-significant greenhouse gas ("GHG") impact (p. 109-110). However, review of *Table A: General Plan Consistency* and *Table B: 2030 Greenhouse Gas Reduction Strategy Compliance* within the Compliance Checklist, provided as Appendix B to the DEIR, reveal that the Project is inconsistent with numerous measures, including but not limited to those listed below:

GHGRS Project Compliance Checklist[11]	
Table A: General Plan Consistency	
Implementation of Green Building Measures	
MS-2.2: Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.	Here, the Compliance Checklist states: "The project would be solar-ready by including building roof space for a "Future PV Array" per California Code. The project would also enroll in San José Clean Energy (SJCE) TotalGreen program which includes 100 percent renewable energy. Additionally, the project would meet U.S. Green Building Council LEED Silver requirements through various credits related to optimized energy performance and other sustainable features." (Appendix I, pp. 142). However, this response is insufficient for three reasons. First, by simply stating that the Project would include "building roof space for a 'Future PV Array' per California Code," the GHG Report commits to the bare minimum requirements. As such, the Compliance Checklist fails to demonstrate how the Project would encourage *maximized* use of on-site renewable energy for all new and existing buildings. Second, the Project's enrollment in the San José Clean Energy ("SJCE") TotalGreen program does not provide any evidence that the Project would encourage maximized use of *on-site* generation of renewable energy because the program addresses procurement of renewable energy generated off-site.

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[11] "GHGRS Project Compliance Checklist." City of San Jose Department of Planning, Building, and Code Enforcement, *available at*: https://www.sanjoseca.gov/Home/ShowDocument?id=63603.

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	Third, the DEIR fails to mention the "Future PV Array" or the Project's proposed enrollment in the SJCE TotalGreen program anywhere other than the Compliance Checklist. The inclusion of a PV array and enrollment in the SJCE TotalGreen program is not included as a mitigation measure or a binding condition of approval, making both Project Design Features ("PDFs") speculative and unenforceable. This is incorrect, as according to the AEP *CEQA Portal Topic Paper* on mitigation measures: "While not "mitigation", a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact" (emphasis added).[12] As you can see in the excerpts above, PDFs are not mitigation measures and may be eliminated from the Project's design. Here, as the DEIR fails to require the Project to incorporate a PV array or enroll in the SJCE Total Green program, we cannot guarantee that these measures would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
MS-2.3: Encourage consideration of solar orientation, including building placement, landscaping, design and construction techniques for new construction to minimize energy consumption.	Here, the Compliance Checklist states: "The project would comply with the latest energy efficiency standards. The State goal is to increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CalGreen requirements. Additionally, the project would be enrolled in San José Clean Energy (SJCE) Total Green program which includes 100 percent renewable energy and meet LEED Silver requirements." (Appendix I, pp. 142). However, this response is insufficient for two reasons. First, by simply stating that the Project would include "comply with the latest energy efficiency standards" and

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

	"implement required green building strategies through existing regulation," the Project commits to the bare *minimum* requirements. As such, the Compliance Checklist fails to demonstrate that the Project would encourage consideration of solar orientation or other techniques to minimize energy consumption. Furthermore, the Compliance Checklist fails to provide any evidence of concrete actions or measures proposed to satisfy this measure. Second, the Project's enrollment in the SJCE Total Green program does not provide any evidence that the Project would encourage consideration of building placement, landscaping, design and construction techniques to minimize energy consumption. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
***MS-2.7**: Encourage the installation of solar panels or other clean energy power generation sources over parking areas.*	Here, the Compliance Checklist states: > "This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. Future tenants within the project would be able to take advantage of incentives that are in place at the time of construction" (Appendix I, pp. 142). However, this response is insufficient for two reasons. First, simply stating that "electricity providers and existing solar programs" are already making efforts "to increase solar throughout California" fails to indicate Project-specific measures that would encourage the installation of solar panels or other clean energy power generation sources over parking areas. Furthermore, while the Compliance Checklist states that the Project would include "building roof space for a 'Future PV Array' per California Code," it fails to indicate that the Project intends to install solar panels over parking areas specifically. Thus, the Compliance Checklist fails to provide any evidence of concrete actions or measures proposed to satisfy this measure. Second, the DEIR fails to mention the inclusion of a "Future PV Array" anywhere other than the Compliance Checklist. Furthermore, the inclusion of a "Future PV Array" is not certain because it is not included as a mitigation measure. This is incorrect, because, as discussed above, project design features are not mitigation measures and may be eliminated from the Project's design. As the DEIR fails to require the Project to include a "Future PV Array," we cannot guarantee that this measure would be implemented, monitored, and enforced on the Project site.

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	As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
***MS-2.11**: Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).*	Here, the Compliance Checklist states: "The State goal is to increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CalGreen requirements to reduce energy use. The project would also meet the LEED Silver requirements." (Appendix I, pp. 142). However, this response is insufficient, as the Compliance Checklist fails to demonstrate how the Project would incorporate green building practices to minimize energy consumption. Specifically, the Compliance Checklist and DEIR should have discussed and considered a Project design that includes building envelopes and systems to maximize energy performance, the maximization of cross ventilation and interior daylight, and the orientation of buildings. Furthermore, the DEIR fails to provide any evidence of concrete actions designed to target reduced energy use. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
Pedestrian, Bicycle & Transit Site Design Measures	
CD-2.1: Promote the Circulation Goals and Policies in the Envision San José 2040 General Plan. Create streets that promote pedestrian and bicycle transportation by following applicable goals and policies in the Circulation section of the Envision San José 2040 General Plan. a) Design the street network for its safe shared use by pedestrians, bicyclists, and vehicles. Include elements that increase driver awareness. b) Create a comfortable and safe pedestrian environment by implementing wider sidewalks, shade structures, attractive street furniture, street trees, reduced traffic speeds, pedestrian-oriented lighting, mid-block pedestrian crossings, pedestrian-activated crossing lights, bulb-outs and curb extensions at intersections, and on-street parking that buffers pedestrians from vehicles. c) Consider support for reduced parking requirements, alternative parking arrangements, and Transportation Demand Management strategies to reduce area dedicated to parking and increase area dedicated to employment, housing, parks, public art, or other amenities. Encourage de-coupled parking to ensure that the value and cost	Here, the Compliance Checklist states: "The proposed project is in an industrial area. There are existing Class II bike lanes on both sides of Lundy Avenue and McKay Drive that will remain. The project would not alter existing bike lanes but would construct 10-foot wide City standard attached sidewalks along Qume Drive, Commerce Drive, and McKay Drive project frontages. Additionally, the proposed project would include 21 bicycle parking spaces, a Class I bike lane on site connecting McKay Drive to Qume Drive, as well as bicycle and pedestrian access on the driveways. Additionally, the project would include Tier 2 multi-modal infrastructure that would construct an internal bicycle/pedestrian pathway connecting the cul-de-sacs at McKay Drive/Automation Parkway and Commerce Drive. Finally, the project would reduce roadway widths along Qume Drive and Commerce Drive to XX-feet to reduce vehicle speeds and promote pedestrian and bicyclist safety" (Appendix I, pp. 143). However, this response is insufficient, as the Compliance Checklist fails to mention elements that increase driver awareness, attractive street furniture, pedestrian-

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of parking are considered in real estate and business transactions.	oriented lighting, mid-block pedestrian crossings, pedestrian-activated crossing lights, bulb-outs and curb extensions at intersections, de-coupled parking, or on-street parking that buffers pedestrians from vehicles. Thus, the Project fails to demonstrate consistency with all aspects of this measure. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
CD-3.2: Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.	Here, the Compliance Checklist states: "There are existing Class II bike lanes on both sides of Lundy Avenue and McKay Drive that will remain. The project would not alter existing bike lanes but would construct 10-foot wide City standard attached sidewalks along Qume Drive, Commerce Drive, and McKay Drive project frontages. Additionally, the proposed project would include 21 bicycle parking spaces, a Class I bike lane on site connecting McKay Drive to Qume Drive, as well as bicycle and pedestrian access on the driveways. Additionally, the project would include Tier 2 multi-modal infrastructure that would construct an internal bicycle/pedestrian pathway connecting the cul-de-sacs at McKay Drive/Automation Parkway and Commerce Drive." (Appendix I, pp. 144). However, this response is insufficient, as the DEIR fails to mention or support how the proposed bicycle and pedestrian network will prioritize connections to transit, community facilities, and other areas service daily needs. Furthermore, the DEIR fails to mention how the proposed Project will accommodate significant anticipated *future* increases in bicycle and pedestrian activity. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
CD-2.5: Integrate Green Building Goals and Policies of the Envision San José 2040 General Plan into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.	Here, the Compliance Checklist states: "The proposed project would include landscaping and landscaped shading of the parking areas and walkways. Approximately 21 percent of the site would be landscaped, resulting in a total of 14 percent pervious area on site. The project would comply with all applicable stormwater regulations" (Appendix I, pp. 143). However, this response is insufficient. As previously discussed, PDFs are not mitigation measures and may be eliminated from the Project's design. Here, the DEIR fails to require shaded parking areas, minimization of impervious surfaces, and incorporation of stormwater treatment measures as formal mitigation. As such, we

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	cannot guarantee that this measure would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
TR-8.5: Promote participation in car share programs to minimize the need for parking spaces in new and existing development.	Here, the Compliance Checklist states: "The project would be located near existing transit and bicycle facilities which would encourage alternative transportation. Additionally, the project includes bike parking spaces" (Appendix I, pp. 145). However, this response is insufficient, as the DEIR fails to mention or support how the proposed bicycle parking spaces and distance to transit facilities will promote participation in car share programs. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
Water Conservation and Urban Forestry Measures	
MS-3.1 Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial and developer-installed residential development unless for recreation needs or other area functions.	Here, the Compliance Checklist states: "The proposed Project would comply with the State's Model Water Efficient Landscape Ordinance and the City's Water-Efficient Landscape Ordinance (Chapter 15.11 of the San José Municipal Code). Project landscaping would include all water efficient landscaping" (Appendix I, pp. 146). However, this response is insufficient. As previously discussed, PDFs are not mitigation measures and may be eliminated from the Project's design. Here, the DEIR fails to require the water-efficient landscaping as formal mitigation. As such, we cannot guarantee that this measure would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
MS-19.4: Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.	Here, the Compliance Checklist states: "The City provides recycled water in the vicinity of the project site. The project would utilize recycled water for the outdoor landscaping based on availability" (Appendix I, pp. 146). However, this response is insufficient. As previously discussed, PDFs are not mitigation measures and may be eliminated from the Project's design. Here, the DEIR fails to require the use of recycled water as formal mitigation. As such, we cannot guarantee that this measure would

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	be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
MS-26.1: As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies or guidelines.	Here, the Compliance Checklist states: "The project would comply with City landscaping requirements including planting of site and street trees, and payment of applicable tree removal fees" (Appendix I, pp. 146). However, this response is insufficient. Simply stating that the Project would comply with City landscaping requirements fails to provide substantial evidence that this goal would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
ER-8.7: Encourage stormwater reuse for beneficial uses in existing infrastructure and future development through the installation of rain barrels, cisterns, or other water storage and reuse facilities.	Here, the Compliance Checklist states: "The Project would comply with all MRP requirements and incorporate measures to minimize stormwater runoff. Proposed features include landscape design elements, pervious parking areas and walkways, source control measures, and on-site bioretention" (Appendix I, pp. 147). However, this response is insufficient. As previously discussed, PDFs are not mitigation measures and may be eliminated from the Project's design. Here, the DEIR fails to require pervious parking areas and walkways, source control measures, and on-site bioretention as formal mitigation. As such, we cannot guarantee that these measures would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.
Table B: 2030 Greenhouse Gas Reduction Strategy Compliance	
PART 2: RESIDENTIAL AND NON-RESIDENTIAL PROJECTS	
Zero Waste Goal 1. Provide space for organic waste (e.g., food scraps, yard waste) collection containers, and/or 2. Exceed the City's construction & demolition waste diversion requirement. Supports Strategies: GHGRS #5	Here, the Compliance Checklist states: "The proposed development includes an exterior trash enclosure with space for recycling and organic waste collection. Additionally, construction and demolition waste would be diverted to exceed City requirements. At least 75 percent of construction and demolition waste and 100 percent of metal would be recycled. Additionally, all concrete and asphalt would be crushed for onsite reuse" (Appendix I, pp. 149).

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	However, this response is insufficient. Simply stating that the Project would provide space for organic waste collection and exceed the City's construction demolition and waste diversion requirement fails to provide substantial evidence that these goals would be implemented, monitored, and enforced on the Project site. As a result, we are unable to verify the Project's consistency with the GHGRS, and the less-than-significant impact conclusion should not be relied upon.

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As the above table indicates, the DEIR fails to provide sufficient information and analysis to determine Project consistency with all the measures required by the GHGRS. As a result, we cannot verify that the Project is consistent with the GHGRS, and the DEIR's less-than-significant GHG impact conclusion should not be relied upon. We recommend that a revised EIR include further information and analysis demonstrating the Project's consistency with the GHGRS.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

The DEIR's analysis demonstrates that the Project would result in a potentially significant air quality impact that should be mitigated further. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in the Department of Justice Warehouse Project Best Practices document.[13] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

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- Requiring off-road construction equipment to be zero-emission, where available, and all diesel-fueled off-road construction equipment, to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Requiring on-road heavy-duty haul trucks to be model year 2010 or newer if diesel-fueled.
- Providing electrical hook ups to the power grid, rather than use of diesel-fueled generators, for electric construction tools, such as saws, drills and compressors, and using electric tools whenever feasible.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than two minutes.

[13] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice.

- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.
- Requiring that all facility-owned and operated fleet equipment with a gross vehicle weight rating greater than 14,000 pounds accessing the site meet or exceed 2010 model-year emissions equivalent engine standards as currently defined in California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025. Facility operators shall maintain records on-site demonstrating compliance with this requirement and shall make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring all heavy-duty vehicles entering or operated on the project site to be zero-emission beginning in 2030.
- Requiring on-site equipment, such as forklifts and yard trucks, to be electric with the necessary electrical charging stations provided.

H.25

- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than two minutes and requiring operators to turn off engines when not in use.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restrictions and contact information to report violations to CARB, the air district, and the building manager.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Constructing electric truck charging stations proportional to the number of dock doors at the project.
- Constructing electric plugs for electric transport refrigeration units at every dock door, if the warehouse use could include refrigeration.

- Constructing electric light-duty vehicle charging stations proportional to the number of parking spaces at the project.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building's projected energy needs.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.

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- Achieving certification of compliance with LEED green building standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

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. A revised EIR should be prepared to include all feasible mitigation measures, as well as include an updated air quality analysis 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: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul E. Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	30	928	0.0323	547	18
Site Preparation	20	928	0.0216	547	12
Grading	45	928	0.0485	547	27
Construction	500	928	0.5388	547	295
Paving	35	928	0.0377	547	21
Architectural Coating	35	928	0.0377	547	21

	Total Default Construction Duration	Revised Construction Duration
Start Date	4/1/2024	4/1/2024
End Date	10/16/2026	9/30/2025
Total Days	928	547

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Bridge Qume

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Refrigerated Warehouse-No Rail	694.49	1000sqft	16.40	694,491.00	0
Parking Lot	490.73	1000sqft	11.27	490,730.00	0
City Park	5.13	Acre	5.13	223,462.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**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 DEIR's model.

Land Use - See SWAPE comments on "Failure to Model Potential Cold Storage Requirements," and "Failure to Model All Proposed Land Uses."

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

Demolition - Consistent with the DEIR's model.

Grading - Consistent with the DEIR's model.

Vehicle Trips - Consistent with the DEIR's model.

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

Water Mitigation - Consistent with the DEIR's model.

Waste Mitigation - Consistent with the DEIR's model.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fleet Mix - Consistent with the DEIR's model.

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

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstructionPhase	NumDays	30.00	18.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	45.00	27.00
tblConstructionPhase	NumDays	500.00	295.00
tblConstructionPhase	NumDays	35.00	21.00
tblConstructionPhase	NumDays	35.00	21.00
tblFleetMix	HHD	6.3770e-003	1.00
tblFleetMix	LDA	0.57	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.1580e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	2.7200e-003	0.00
tblFleetMix	MHD	8.0300e-003	0.00
tblFleetMix	OBUS	8.9300e-004	0.00
tblFleetMix	SBUS	9.0000e-004	0.00
tblFleetMix	UBUS	3.7200e-004	0.00
tblGrading	MaterialExported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	694,490.00	694,491.00
tblLandUse	LotAcreage	15.94	16.40
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	750.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	4.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	77.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	66.86
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.44
tblVehicleTrips	SU_TR	2.19	66.86
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.44
tblVehicleTrips	WD_TR	0.78	66.86
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.44

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2024	0.3061	2.9590	3.0068	0.0112	1.3634	0.0864	1.4498	0.3397	0.0808	0.4205	0.0000	1,048.2624	1,048.2624	0.0972	0.0835	1,075.5798
2025	4.0846	1.9403	2.6033	8.8900e-003	0.4982	0.0523	0.5505	0.1353	0.0492	0.1845	0.0000	830.9157	830.9157	0.0635	0.0581	849.8284
Maximum	**4.0846**	**2.9590**	**3.0068**	**0.0112**	**1.3634**	**0.0864**	**1.4498**	**0.3397**	**0.0808**	**0.4205**	**0.0000**	**1,048.2624**	**1,048.2624**	**0.0972**	**0.0835**	**1,075.5798**

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					
2024	0.3061	2.9590	3.0068	0.0112	1.3389	0.0864	1.4254	0.3337	0.0808	0.4145	0.0000	1,048.2620	1,048.2620	0.0972	0.0835	1,075.5795
2025	4.0846	1.9403	2.6033	8.8900e-003	0.4735	0.0523	0.5258	0.1292	0.0492	0.1784	0.0000	830.9155	830.9155	0.0635	0.0581	849.8282
Maximum	**4.0846**	**2.9590**	**3.0068**	**0.0112**	**1.3389**	**0.0864**	**1.4254**	**0.3337**	**0.0808**	**0.4145**	**0.0000**	**1,048.2620**	**1,048.2620**	**0.0972**	**0.0835**	**1,075.5795**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**2.64**	**0.00**	**2.46**	**2.54**	**0.00**	**1.99**	**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	**4-1-2024**	**6-30-2024**	1.3928	1.3928
2	**7-1-2024**	**9-30-2024**	0.9049	0.9049
3	**10-1-2024**	**12-31-2024**	0.9314	0.9314
4	**1-1-2025**	**3-31-2025**	0.8690	0.8690
5	**4-1-2025**	**6-30-2025**	0.8530	0.8530
6	**7-1-2025**	**9-30-2025**	3.9833	3.9833
		Highest	3.9833	3.9833

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Area	3.2081	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230
Energy	0.0159	0.1446	0.1214	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	830.2633	830.2633	0.1119	0.0161	837.8521
Mobile	0.8508	4.6606	9.4622	0.0328	2.5517	0.0383	2.5899	0.6842	0.0363	0.7205	0.0000	3,161.0084	3,161.0084	0.1431	0.2947	3,252.3921
Stationary	0.1231	0.5504	0.3138	5.9000e-004		0.0181	0.0181		0.0181	0.0181	0.0000	57.1196	57.1196	8.0100e-003	0.0000	57.3198
Waste						0.0000	0.0000		0.0000	0.0000	136.3815	0.0000	136.3815	8.0599	0.0000	337.8794
Water						0.0000	0.0000		0.0000	0.0000	52.0790	84.8687	136.9477	5.3627	0.1280	309.1500
Total	**4.1979**	**5.3557**	**9.9086**	**0.0342**	**2.5517**	**0.0674**	**2.6191**	**0.6842**	**0.0654**	**0.7496**	**188.4605**	**4,133.2816**	**4,321.7421**	**13.6857**	**0.4387**	**4,794.6165**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.2081	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230
Energy	0.0159	0.1446	0.1214	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	830.2633	830.2633	0.1119	0.0161	837.8521
Mobile	0.8508	4.6606	9.4622	0.0328	2.5517	0.0383	2.5899	0.6842	0.0363	0.7205	0.0000	3,161.0084	3,161.0084	0.1431	0.2947	3,252.3921
Stationary	0.1231	0.5504	0.3138	5.9000e-004		0.0181	0.0181		0.0181	0.0181	0.0000	57.1196	57.1196	8.0100e-003	0.0000	57.3198
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	41.6632	68.2682	109.9313	4.2903	0.1024	247.6969
Total	**4.1979**	**5.3557**	**9.9086**	**0.0342**	**2.5517**	**0.0674**	**2.6191**	**0.6842**	**0.0654**	**0.7496**	**41.6632**	**4,116.6811**	**4,158.3442**	**4.5533**	**0.4131**	**4,395.2840**

	ROG	NOx	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**	**77.89**	**0.40**	**3.78**	**66.73**	**5.83**	**8.33**

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	4/1/2024	4/24/2024	5	18	
2	Site Preparation	Site Preparation	4/25/2024	5/10/2024	5	12	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Grading	Grading	5/11/2024	6/18/2024	5	27	
4	Building Construction	Building Construction	6/19/2024	8/5/2025	5	295	
5	Paving	Paving	8/6/2025	9/3/2025	5	21	
6	Architectural Coating	Architectural Coating	9/4/2025	10/2/2025	5	21	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 81

Acres of Paving: 11.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,071,737; Non-Residential Outdoor: 357,246; Striped Parking Area: 29,444 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	5,756.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	598.00	234.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	120.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					
Fugitive Dust					0.6229	0.0000	0.6229	0.0943	0.0000	0.0943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.1879	0.1774	3.5000e-004		8.6400e-003	8.6400e-003		8.0300e-003	8.0300e-003	0.0000	30.5964	30.5964	8.5600e-003	0.0000	30.8105
Total	**0.0202**	**0.1879**	**0.1774**	**3.5000e-004**	**0.6229**	**8.6400e-003**	**0.6315**	**0.0943**	**8.0300e-003**	**0.1023**	**0.0000**	**30.5964**	**30.5964**	**8.5600e-003**	**0.0000**	**30.8105**

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	6.0000e-003	0.3915	0.0914	1.7100e-003	0.0488	3.2000e-003	0.0520	0.0134	3.0600e-003	0.0165	0.0000	169.6192	169.6192	5.8200e-003	0.0269	177.7792
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	3.2000e-004	2.1000e-004	2.8200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	0.0000	2.9000e-004	0.0000	0.8053	0.8053	2.0000e-005	2.0000e-005	0.8122
Total	**6.3200e-003**	**0.3917**	**0.0942**	**1.7200e-003**	**0.0499**	**3.2100e-003**	**0.0531**	**0.0137**	**3.0600e-003**	**0.0168**	**0.0000**	**170.4245**	**170.4245**	**5.8400e-003**	**0.0269**	**178.5913**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					
Fugitive Dust					0.6229	0.0000	0.6229	0.0943	0.0000	0.0943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.1879	0.1774	3.5000e-004		8.6400e-003	8.6400e-003		8.0300e-003	8.0300e-003	0.0000	30.5964	30.5964	8.5600e-003	0.0000	30.8104
Total	**0.0202**	**0.1879**	**0.1774**	**3.5000e-004**	**0.6229**	**8.6400e-003**	**0.6315**	**0.0943**	**8.0300e-003**	**0.1023**	**0.0000**	**30.5964**	**30.5964**	**8.5600e-003**	**0.0000**	**30.8104**

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	6.0000e-003	0.3915	0.0914	1.7100e-003	0.0467	3.2000e-003	0.0499	0.0129	3.0600e-003	0.0160	0.0000	169.6192	169.6192	5.8200e-003	0.0269	177.7792
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	3.2000e-004	2.1000e-004	2.8200e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	0.8053	0.8053	2.0000e-005	2.0000e-005	0.8122
Total	**6.3200e-003**	**0.3917**	**0.0942**	**1.7200e-003**	**0.0477**	**3.2100e-003**	**0.0509**	**0.0132**	**3.0600e-003**	**0.0162**	**0.0000**	**170.4245**	**170.4245**	**5.8400e-003**	**0.0269**	**178.5913**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					0.1179	0.0000	0.1179	0.0606	0.0000	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1631	0.1100	2.3000e-004		7.3800e-003	7.3800e-003		6.7900e-003	6.7900e-003	0.0000	20.0742	20.0742	6.4900e-003	0.0000	20.2366
Total	**0.0160**	**0.1631**	**0.1100**	**2.3000e-004**	**0.1179**	**7.3800e-003**	**0.1253**	**0.0606**	**6.7900e-003**	**0.0674**	**0.0000**	**20.0742**	**20.0742**	**6.4900e-003**	**0.0000**	**20.2366**

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	2.5000e-004	1.7000e-004	2.2600e-003	1.0000e-005	8.6000e-004	0.0000	8.6000e-004	2.3000e-004	0.0000	2.3000e-004	0.0000	0.6443	0.6443	2.0000e-005	2.0000e-005	0.6497
Total	**2.5000e-004**	**1.7000e-004**	**2.2600e-003**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**8.6000e-004**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6443**	**0.6443**	**2.0000e-005**	**2.0000e-005**	**0.6497**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					0.1179	0.0000	0.1179	0.0606	0.0000	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1631	0.1100	2.3000e-004		7.3800e-003	7.3800e-003		6.7900e-003	6.7900e-003	0.0000	20.0742	20.0742	6.4900e-003	0.0000	20.2365
Total	**0.0160**	**0.1631**	**0.1100**	**2.3000e-004**	**0.1179**	**7.3800e-003**	**0.1253**	**0.0606**	**6.7900e-003**	**0.0674**	**0.0000**	**20.0742**	**20.0742**	**6.4900e-003**	**0.0000**	**20.2365**

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	2.5000e-004	1.7000e-004	2.2600e-003	1.0000e-005	8.1000e-004	0.0000	8.2000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6443	0.6443	2.0000e-005	2.0000e-005	0.6497
Total	**2.5000e-004**	**1.7000e-004**	**2.2600e-003**	**1.0000e-005**	**8.1000e-004**	**0.0000**	**8.2000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6443**	**0.6443**	**2.0000e-005**	**2.0000e-005**	**0.6497**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					0.1245	0.0000	0.1245	0.0494	0.0000	0.0494	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0434	0.4371	0.3743	8.4000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	73.6014	73.6014	0.0238	0.0000	74.1965
Total	**0.0434**	**0.4371**	**0.3743**	**8.4000e-004**	**0.1245**	**0.0180**	**0.1426**	**0.0494**	**0.0166**	**0.0660**	**0.0000**	**73.6014**	**73.6014**	**0.0238**	**0.0000**	**74.1965**

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	6.5000e-004	0.0425	9.9200e-003	1.9000e-004	5.3000e-003	3.5000e-004	5.6500e-003	1.4600e-003	3.3000e-004	1.7900e-003	0.0000	18.4177	18.4177	6.3000e-004	2.9200e-003	19.3037
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	6.3000e-004	4.2000e-004	5.6500e-003	2.0000e-005	2.1400e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6106	1.6106	4.0000e-005	4.0000e-005	1.6243
Total	**1.2800e-003**	**0.0429**	**0.0156**	**2.1000e-004**	**7.4400e-003**	**3.6000e-004**	**7.8000e-003**	**2.0300e-003**	**3.4000e-004**	**2.3700e-003**	**0.0000**	**20.0283**	**20.0283**	**6.7000e-004**	**2.9600e-003**	**20.9280**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					0.1245	0.0000	0.1245	0.0494	0.0000	0.0494	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0434	0.4371	0.3743	8.4000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	73.6013	73.6013	0.0238	0.0000	74.1964
Total	**0.0434**	**0.4371**	**0.3743**	**8.4000e-004**	**0.1245**	**0.0180**	**0.1426**	**0.0494**	**0.0166**	**0.0660**	**0.0000**	**73.6013**	**73.6013**	**0.0238**	**0.0000**	**74.1964**

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	6.5000e-004	0.0425	9.9200e-003	1.9000e-004	5.0700e-003	3.5000e-004	5.4100e-003	1.4000e-003	3.3000e-004	1.7300e-003	0.0000	18.4177	18.4177	6.3000e-004	2.9200e-003	19.3037
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	6.3000e-004	4.2000e-004	5.6500e-003	2.0000e-005	2.0300e-003	1.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.6106	1.6106	4.0000e-005	4.0000e-005	1.6243
Total	**1.2800e-003**	**0.0429**	**0.0156**	**2.1000e-004**	**7.1000e-003**	**3.6000e-004**	**7.4500e-003**	**1.9400e-003**	**3.4000e-004**	**2.2800e-003**	**0.0000**	**20.0283**	**20.0283**	**6.7000e-004**	**2.9600e-003**	**20.9280**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.1030	0.9411	1.1317	1.8900e-003		0.0429	0.0429		0.0404	0.0404	0.0000	162.2944	162.2944	0.0384	0.0000	163.2538
Total	**0.1030**	**0.9411**	**1.1317**	**1.8900e-003**		**0.0429**	**0.0429**		**0.0404**	**0.0404**	**0.0000**	**162.2944**	**162.2944**	**0.0384**	**0.0000**	**163.2538**

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	0.0175	0.7298	0.2255	3.3000e-003	0.1078	4.3300e-003	0.1121	0.0312	4.1400e-003	0.0353	0.0000	320.8942	320.8942	6.7700e-003	0.0471	335.0865
Worker	0.0981	0.0652	0.8759	2.6700e-003	0.3320	1.5700e-003	0.3336	0.0883	1.4500e-003	0.0897	0.0000	249.7048	249.7048	6.6200e-003	6.5700e-003	251.8270
Total	**0.1156**	**0.7950**	**1.1014**	**5.9700e-003**	**0.4398**	**5.9000e-003**	**0.4457**	**0.1195**	**5.5900e-003**	**0.1251**	**0.0000**	**570.5990**	**570.5990**	**0.0134**	**0.0536**	**586.9135**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.1030	0.9411	1.1317	1.8900e-003		0.0429	0.0429		0.0404	0.0404	0.0000	162.2942	162.2942	0.0384	0.0000	163.2536
Total	**0.1030**	**0.9411**	**1.1317**	**1.8900e-003**		**0.0429**	**0.0429**		**0.0404**	**0.0404**	**0.0000**	**162.2942**	**162.2942**	**0.0384**	**0.0000**	**163.2536**

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	0.0175	0.7298	0.2255	3.3000e-003	0.1033	4.3300e-003	0.1076	0.0301	4.1400e-003	0.0342	0.0000	320.8942	320.8942	6.7700e-003	0.0471	335.0865
Worker	0.0981	0.0652	0.8759	2.6700e-003	0.3148	1.5700e-003	0.3164	0.0841	1.4500e-003	0.0855	0.0000	249.7048	249.7048	6.6200e-003	6.5700e-003	251.8270
Total	**0.1156**	**0.7950**	**1.1014**	**5.9700e-003**	**0.4180**	**5.9000e-003**	**0.4239**	**0.1141**	**5.5900e-003**	**0.1197**	**0.0000**	**570.5990**	**570.5990**	**0.0134**	**0.0536**	**586.9135**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.1060	0.9664	1.2466	2.0900e-003		0.0409	0.0409		0.0385	0.0385	0.0000	179.7376	179.7376	0.0423	0.0000	180.7939
Total	**0.1060**	**0.9664**	**1.2466**	**2.0900e-003**		**0.0409**	**0.0409**		**0.0385**	**0.0385**	**0.0000**	**179.7376**	**179.7376**	**0.0423**	**0.0000**	**180.7939**

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	0.0189	0.8047	0.2458	3.5900e-003	0.1194	4.7900e-003	0.1242	0.0345	4.5800e-003	0.0391	0.0000	349.2537	349.2537	7.4100e-003	0.0511	364.6702
Worker	0.1024	0.0651	0.9110	2.8600e-003	0.3676	1.6700e-003	0.3692	0.0978	1.5300e-003	0.0993	0.0000	269.9662	269.9662	6.6700e-003	6.8200e-003	272.1653
Total	**0.1213**	**0.8698**	**1.1568**	**6.4500e-003**	**0.4869**	**6.4600e-003**	**0.4934**	**0.1323**	**6.1100e-003**	**0.1384**	**0.0000**	**619.2199**	**619.2199**	**0.0141**	**0.0579**	**636.8354**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.1060	0.9664	1.2466	2.0900e-003		0.0409	0.0409		0.0385	0.0385	0.0000	179.7374	179.7374	0.0423	0.0000	180.7936
Total	**0.1060**	**0.9664**	**1.2466**	**2.0900e-003**		**0.0409**	**0.0409**		**0.0385**	**0.0385**	**0.0000**	**179.7374**	**179.7374**	**0.0423**	**0.0000**	**180.7936**

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	0.0189	0.8047	0.2458	3.5900e-003	0.1143	4.7900e-003	0.1191	0.0333	4.5800e-003	0.0379	0.0000	349.2537	349.2537	7.4100e-003	0.0511	364.6702
Worker	0.1024	0.0651	0.9110	2.8600e-003	0.3485	1.6700e-003	0.3502	0.0931	1.5300e-003	0.0946	0.0000	269.9662	269.9662	6.6700e-003	6.8200e-003	272.1653
Total	**0.1213**	**0.8698**	**1.1568**	**6.4500e-003**	**0.4628**	**6.4600e-003**	**0.4693**	**0.1264**	**6.1100e-003**	**0.1325**	**0.0000**	**619.2199**	**619.2199**	**0.0141**	**0.0579**	**636.8354**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	9.6100e-003	0.0901	0.1531	2.4000e-004		4.3900e-003	4.3900e-003		4.0400e-003	4.0400e-003	0.0000	21.0202	21.0202	6.8000e-003	0.0000	21.1902
Paving	0.0148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0244**	**0.0901**	**0.1531**	**2.4000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0400e-003**	**4.0400e-003**	**0.0000**	**21.0202**	**21.0202**	**6.8000e-003**	**0.0000**	**21.1902**

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	3.5000e-004	2.2000e-004	3.1000e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9175	0.9175	2.0000e-005	2.0000e-005	0.9249
Total	**3.5000e-004**	**2.2000e-004**	**3.1000e-003**	**1.0000e-005**	**1.2500e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9175**	**0.9175**	**2.0000e-005**	**2.0000e-005**	**0.9249**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	9.6100e-003	0.0901	0.1531	2.4000e-004		4.3900e-003	4.3900e-003		4.0400e-003	4.0400e-003	0.0000	21.0202	21.0202	6.8000e-003	0.0000	21.1902
Paving	0.0148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0244**	**0.0901**	**0.1531**	**2.4000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0400e-003**	**4.0400e-003**	**0.0000**	**21.0202**	**21.0202**	**6.8000e-003**	**0.0000**	**21.1902**

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	3.5000e-004	2.2000e-004	3.1000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9175	0.9175	2.0000e-005	2.0000e-005	0.9249
Total	**3.5000e-004**	**2.2000e-004**	**3.1000e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9175**	**0.9175**	**2.0000e-005**	**2.0000e-005**	**0.9249**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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					
Archit. Coating	3.8280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**3.8298**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

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	2.7800e-003	1.7700e-003	0.0248	8.0000e-005	9.9900e-003	5.0000e-005	0.0100	2.6600e-003	4.0000e-005	2.7000e-003	0.0000	7.3397	7.3397	1.8000e-004	1.9000e-004	7.3995
Total	**2.7800e-003**	**1.7700e-003**	**0.0248**	**8.0000e-005**	**9.9900e-003**	**5.0000e-005**	**0.0100**	**2.6600e-003**	**4.0000e-005**	**2.7000e-003**	**0.0000**	**7.3397**	**7.3397**	**1.8000e-004**	**1.9000e-004**	**7.3995**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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					
Archit. Coating	3.8280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**3.8298**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

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	2.7800e-003	1.7700e-003	0.0248	8.0000e-005	9.4700e-003	5.0000e-005	9.5200e-003	2.5300e-003	4.0000e-005	2.5700e-003	0.0000	7.3397	7.3397	1.8000e-004	1.9000e-004	7.3995
Total	**2.7800e-003**	**1.7700e-003**	**0.0248**	**8.0000e-005**	**9.4700e-003**	**5.0000e-005**	**9.5200e-003**	**2.5300e-003**	**4.0000e-005**	**2.5700e-003**	**0.0000**	**7.3397**	**7.3397**	**1.8000e-004**	**1.9000e-004**	**7.3995**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8508	4.6606	9.4622	0.0328	2.5517	0.0383	2.5899	0.6842	0.0363	0.7205	0.0000	3,161.0084	3,161.0084	0.1431	0.2947	3,252.3921
Unmitigated	0.8508	4.6606	9.4622	0.0328	2.5517	0.0383	2.5899	0.6842	0.0363	0.7205	0.0000	3,161.0084	3,161.0084	0.1431	0.2947	3,252.3921

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	342.99	342.99	342.99	911,398	911,398
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1,694.56	1,694.56	1694.56	5,859,773	5,859,773
Total	2,037.55	2,037.55	2,037.55	6,771,171	6,771,171

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
City Park	9.50	7.30	7.30	0.00	0.00	100.00	100	0	0
General Office Building	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Refrigerated Warehouse-No	9.50	7.30	7.30	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
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Parking Lot	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Refrigerated Warehouse-No Rail	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Bridge Qume - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	672.8840	672.8840	0.1089	0.0132	679.5377
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	672.8840	672.8840	0.1089	0.0132	679.5377
NaturalGas Mitigated	0.0159	0.1446	0.1214	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.3793	157.3793	3.0200e-003	2.8900e-003	158.3145
NaturalGas Unmitigated	0.0159	0.1446	0.1214	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.3793	157.3793	3.0200e-003	2.8900e-003	158.3145

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
City Park	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	324000	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2899	17.2899	3.3000e-004	3.2000e-004	17.3926
Parking Lot	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
Refrigerated Warehouse-No Rail	2.62518e+006	0.0142	0.1287	0.1081	7.7000e-004		9.7800e-003	9.7800e-003		9.7800e-003	9.7800e-003	0.0000	140.0894	140.0894	2.6900e-003	2.5700e-003	140.9219
Total		**0.0159**	**0.1446**	**0.1214**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**157.3793**	**157.3793**	**3.0200e-003**	**2.8900e-003**	**158.3145**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
City Park	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	324000	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2899	17.2899	3.3000e-004	3.2000e-004	17.3926
Parking Lot	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
Refrigerated Warehouse-No Rail	2.62518e+006	0.0142	0.1287	0.1081	7.7000e-004		9.7800e-003	9.7800e-003		9.7800e-003	9.7800e-003	0.0000	140.0894	140.0894	2.6900e-003	2.5700e-003	140.9219
Total		**0.0159**	**0.1446**	**0.1214**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**157.3793**	**157.3793**	**3.0200e-003**	**2.8900e-003**	**158.3145**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	343400	31.7727	5.1400e-003	6.2000e-004	32.0868
Parking Lot	171756	15.8915	2.5700e-003	3.1000e-004	16.0486
Refrigerated Warehouse-No Rail	6.7574e+006	625.2199	0.1012	0.0123	631.4022
Total		**672.8840**	**0.1089**	**0.0132**	**679.5377**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	343400	31.7727	5.1400e-003	6.2000e-004	32.0868
Parking Lot	171756	15.8915	2.5700e-003	3.1000e-004	16.0486
Refrigerated Warehouse-No Rail	6.7574e+006	625.2199	0.1012	0.0123	631.4022
Total		**672.8840**	**0.1089**	**0.0132**	**679.5377**

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 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	3.2081	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230
Unmitigated	3.2081	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230

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	0.3828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8243					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0200e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230
Total	**3.2081**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0216**	**0.0216**	**6.0000e-005**	**0.0000**	**0.0230**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.3828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8243					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0200e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0216	0.0216	6.0000e-005	0.0000	0.0230
Total	**3.2081**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0216**	**0.0216**	**6.0000e-005**	**0.0000**	**0.0230**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	109.9313	4.2903	0.1024	247.6969
Unmitigated	136.9477	5.3627	0.1280	309.1500

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.1123	1.9794	3.2000e-004	4.0000e-005	1.9989
General Office Building	3.55467 / 2.17867	3.6129	0.1162	2.7800e-003	7.3482
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	160.601 / 0	131.3554	5.2462	0.1251	299.8028
Total		**136.9477**	**5.3627**	**0.1280**	**309.1500**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.73945	1.8586	3.0000e-004	4.0000e-005	1.8770
General Office Building	2.84374 / 2.04577	2.9884	0.0930	2.2300e-003	5.9776
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	128.481 / 0	105.0843	4.1970	0.1001	239.8423
Total		**109.9313**	**4.2903**	**0.1024**	**247.6969**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	136.3815	8.0599	0.0000	337.8794

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.44	0.0893	5.2800e-003	0.0000	0.2213
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	652.82	132.5166	7.8315	0.0000	328.3042
Total		**136.3815**	**8.0599**	**0.0000**	**337.8794**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park		0.0000	0.0000	0.0000	0.0000
General Office Building		0.0000	0.0000	0.0000	0.0000
Parking Lot		0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail		0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4	0.25	50	750	0.73	Diesel

Boilers

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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)	0.1231	0.5504	0.3138	5.9000e-004		0.0181	0.0181		0.0181	0.0181	0.0000	57.1196	57.1196	8.0100e-003	0.0000	57.3198
Total	**0.1231**	**0.5504**	**0.3138**	**5.9000e-004**		**0.0181**	**0.0181**		**0.0181**	**0.0181**	**0.0000**	**57.1196**	**57.1196**	**8.0100e-003**	**0.0000**	**57.3198**

11.0 Vegetation

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Bridge Qume

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Refrigerated Warehouse-No Rail	694.49	1000sqft	16.40	694,491.00	0
Parking Lot	490.73	1000sqft	11.27	490,730.00	0
City Park	5.13	Acre	5.13	223,462.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**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 DEIR's model.

Land Use - See SWAPE comments on "Failure to Model Potential Cold Storage Requirements," and "Failure to Model All Proposed Land Uses."

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

Demolition - Consistent with the DEIR's model.

Grading - Consistent with the DEIR's model.

Vehicle Trips - Consistent with the DEIR's model.

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

Water Mitigation - Consistent with the DEIR's model.

Waste Mitigation - Consistent with the DEIR's model.

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fleet Mix - Consistent with the DEIR's model.

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

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstructionPhase	NumDays	30.00	18.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	45.00	27.00
tblConstructionPhase	NumDays	500.00	295.00
tblConstructionPhase	NumDays	35.00	21.00
tblConstructionPhase	NumDays	35.00	21.00
tblFleetMix	HHD	6.3770e-003	1.00
tblFleetMix	LDA	0.57	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.1580e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	2.7200e-003	0.00
tblFleetMix	MHD	8.0300e-003	0.00
tblFleetMix	OBUS	8.9300e-004	0.00
tblFleetMix	SBUS	9.0000e-004	0.00
tblFleetMix	UBUS	3.7200e-004	0.00
tblGrading	MaterialExported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	694,490.00	694,491.00
tblLandUse	LotAcreage	15.94	16.40
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	750.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	4.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	77.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	66.86
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.44
tblVehicleTrips	SU_TR	2.19	66.86
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.44
tblVehicleTrips	WD_TR	0.78	66.86
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.44

2.0 Emissions Summary

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2024	3.3171	62.8340	32.8691	0.2300	74.9238	1.3618	76.2395	12.0448	1.2538	13.2771	0.0000	24,619.0519	24,619.0519	1.9987	3.2950	25,645.0797
2025	365.0195	23.2403	31.8956	0.1125	6.4976	0.6108	7.1084	1.7594	0.5751	2.3345	0.0000	11,617.0526	11,617.0526	0.7954	0.8162	11,880.1543
Maximum	**365.0195**	**62.8340**	**32.8691**	**0.2300**	**74.9238**	**1.3618**	**76.2395**	**12.0448**	**1.2538**	**13.2771**	**0.0000**	**24,619.0519**	**24,619.0519**	**1.9987**	**3.2950**	**25,645.0797**

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					
2024	3.3171	62.8340	32.8691	0.2300	74.6637	1.3618	75.9794	11.9810	1.2538	13.2133	0.0000	24,619.0519	24,619.0519	1.9987	3.2950	25,645.0797
2025	365.0195	23.2403	31.8956	0.1125	6.1737	0.6108	6.7845	1.6799	0.5751	2.2550	0.0000	11,617.0526	11,617.0526	0.7954	0.8162	11,880.1543
Maximum	**365.0195**	**62.8340**	**32.8691**	**0.2300**	**74.6637**	**1.3618**	**75.9794**	**11.9810**	**1.2538**	**13.2133**	**0.0000**	**24,619.0519**	**24,619.0519**	**1.9987**	**3.2950**	**25,645.0797**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**0.00**	**0.70**	**1.04**	**0.00**	**0.92**	**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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Energy	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
Mobile	5.0906	24.5112	53.0952	0.1858	14.5086	0.2102	14.7188	3.8792	0.1993	4.0785		19,743.0300	19,743.0300	0.8410	1.7634	20,289.5497
Stationary	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**23.9928**	**30.8085**	**57.0222**	**0.1965**	**14.5086**	**0.4519**	**14.9605**	**3.8792**	**0.4410**	**4.3202**		**21,323.5110**	**21,323.5110**	**0.9482**	**1.7808**	**21,877.9036**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Energy	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
Mobile	5.0906	24.5112	53.0952	0.1858	14.5086	0.2102	14.7188	3.8792	0.1993	4.0785		19,743.0300	19,743.0300	0.8410	1.7634	20,289.5497
Stationary	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**23.9928**	**30.8085**	**57.0222**	**0.1965**	**14.5086**	**0.4519**	**14.9605**	**3.8792**	**0.4410**	**4.3202**		**21,323.5110**	**21,323.5110**	**0.9482**	**1.7808**	**21,877.9036**

	ROG	NOx	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	4/1/2024	4/24/2024	5	18	
2	Site Preparation	Site Preparation	4/25/2024	5/10/2024	5	12	
3	Grading	Grading	5/11/2024	6/18/2024	5	27	
4	Building Construction	Building Construction	6/19/2024	8/5/2025	5	295	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Paving	Paving	8/6/2025	9/3/2025	5	21	
6	Architectural Coating	Architectural Coating	9/4/2025	10/2/2025	5	21	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 81

Acres of Paving: 11.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,071,737; Non-Residential Outdoor: 357,246; Striped Parking Area: 29,444 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	5,756.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	598.00	234.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	120.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					
Fugitive Dust					69.2056	0.0000	69.2056	10.4783	0.0000	10.4783			0.0000			0.0000
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**	**69.2056**	**0.9602**	**70.1657**	**10.4783**	**0.8922**	**11.3705**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

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	0.6839	41.9350	10.0994	0.1902	5.5950	0.3550	5.9500	1.5338	0.3396	1.8734		20,766.3986	20,766.3986	0.7143	3.2926	21,765.4358
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	0.0371	0.0209	0.3395	1.0200e-003	0.1232	5.6000e-004	0.1238	0.0327	5.2000e-004	0.0332		105.2306	105.2306	2.4500e-003	2.4100e-003	106.0095
Total	**0.7210**	**41.9559**	**10.4389**	**0.1912**	**5.7182**	**0.3555**	**6.0738**	**1.5665**	**0.3401**	**1.9066**		**20,871.6291**	**20,871.6291**	**0.7168**	**3.2950**	**21,871.4452**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					69.2056	0.0000	69.2056	10.4783	0.0000	10.4783			0.0000			0.0000
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**	**69.2056**	**0.9602**	**70.1657**	**10.4783**	**0.8922**	**11.3705**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

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	0.6839	41.9350	10.0994	0.1902	5.3414	0.3550	5.6963	1.4715	0.3396	1.8111		20,766.3986	20,766.3986	0.7143	3.2926	21,765.4358
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	0.0371	0.0209	0.3395	1.0200e-003	0.1168	5.6000e-004	0.1174	0.0311	5.2000e-004	0.0316		105.2306	105.2306	2.4500e-003	2.4100e-003	106.0095
Total	**0.7210**	**41.9559**	**10.4389**	**0.1912**	**5.4582**	**0.3555**	**5.8137**	**1.5026**	**0.3401**	**1.8427**		**20,871.6291**	**20,871.6291**	**0.7168**	**3.2950**	**21,871.4452**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310		3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**19.6570**	**1.2294**	**20.8864**	**10.1025**	**1.1310**	**11.2335**		**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

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	0.0445	0.0251	0.4074	1.2200e-003	0.1479	6.8000e-004	0.1485	0.0392	6.2000e-004	0.0398		126.2767	126.2767	2.9500e-003	2.8900e-003	127.2114
Total	**0.0445**	**0.0251**	**0.4074**	**1.2200e-003**	**0.1479**	**6.8000e-004**	**0.1485**	**0.0392**	**6.2000e-004**	**0.0398**		**126.2767**	**126.2767**	**2.9500e-003**	**2.8900e-003**	**127.2114**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310	0.0000	3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**19.6570**	**1.2294**	**20.8864**	**10.1025**	**1.1310**	**11.2335**	**0.0000**	**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

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	0.0445	0.0251	0.4074	1.2200e-003	0.1402	6.8000e-004	0.1408	0.0373	6.2000e-004	0.0380		126.2767	126.2767	2.9500e-003	2.8900e-003	127.2114
Total	**0.0445**	**0.0251**	**0.4074**	**1.2200e-003**	**0.1402**	**6.8000e-004**	**0.1408**	**0.0373**	**6.2000e-004**	**0.0380**		**126.2767**	**126.2767**	**2.9500e-003**	**2.8900e-003**	**127.2114**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					9.2245	0.0000	9.2245	3.6569	0.0000	3.6569			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2245**	**1.3354**	**10.5599**	**3.6569**	**1.2286**	**4.8855**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

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	0.0495	3.0356	0.7311	0.0138	0.4050	0.0257	0.4307	0.1110	0.0246	0.1356		1,503.2429	1,503.2429	0.0517	0.2383	1,575.5614
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	0.0494	0.0279	0.4526	1.3600e-003	0.1643	7.5000e-004	0.1651	0.0436	6.9000e-004	0.0443		140.3074	140.3074	3.2700e-003	3.2100e-003	141.3460
Total	**0.0989**	**3.0635**	**1.1837**	**0.0151**	**0.5693**	**0.0264**	**0.5958**	**0.1546**	**0.0253**	**0.1799**		**1,643.5503**	**1,643.5503**	**0.0550**	**0.2416**	**1,716.9074**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					9.2245	0.0000	9.2245	3.6569	0.0000	3.6569			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2245**	**1.3354**	**10.5599**	**3.6569**	**1.2286**	**4.8855**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

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	0.0495	3.0356	0.7311	0.0138	0.3867	0.0257	0.4124	0.1065	0.0246	0.1311		1,503.2429	1,503.2429	0.0517	0.2383	1,575.5614
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	0.0494	0.0279	0.4526	1.3600e-003	0.1557	7.5000e-004	0.1565	0.0415	6.9000e-004	0.0422		140.3074	140.3074	3.2700e-003	3.2100e-003	141.3460
Total	**0.0989**	**3.0635**	**1.1837**	**0.0151**	**0.5424**	**0.0264**	**0.5688**	**0.1480**	**0.0253**	**0.1733**		**1,643.5503**	**1,643.5503**	**0.0550**	**0.2416**	**1,716.9074**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.2552	10.0606	3.1692	0.0471	1.5851	0.0617	1.6468	0.4563	0.0590	0.5154		5,050.1309	5,050.1309	0.1069	0.7401	5,273.3518
Worker	1.4772	0.8331	13.5330	0.0407	4.9124	0.0224	4.9349	1.3030	0.0207	1.3237		4,195.1914	4,195.1914	0.0979	0.0960	4,226.2442
Total	**1.7324**	**10.8937**	**16.7022**	**0.0877**	**6.4975**	**0.0841**	**6.5816**	**1.7594**	**0.0797**	**1.8390**		**9,245.3223**	**9,245.3223**	**0.2047**	**0.8361**	**9,499.5960**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.2552	10.0606	3.1692	0.0471	1.5173	0.0617	1.5790	0.4397	0.0590	0.4987		5,050.1309	5,050.1309	0.1069	0.7401	5,273.3518
Worker	1.4772	0.8331	13.5330	0.0407	4.6563	0.0224	4.6787	1.2401	0.0207	1.2608		4,195.1914	4,195.1914	0.0979	0.0960	4,226.2442
Total	**1.7324**	**10.8937**	**16.7022**	**0.0877**	**6.1736**	**0.0841**	**6.2577**	**1.6798**	**0.0797**	**1.7595**		**9,245.3223**	**9,245.3223**	**0.2047**	**0.8361**	**9,499.5960**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2495	10.0188	3.1190	0.0463	1.5852	0.0617	1.6469	0.4564	0.0591	0.5154		4,964.4750	4,964.4750	0.1056	0.7261	5,183.4868
Worker	1.3901	0.7518	12.6919	0.0393	4.9124	0.0215	4.9339	1.3030	0.0198	1.3228		4,096.1032	4,096.1032	0.0888	0.0901	4,125.1694
Total	**1.6396**	**10.7706**	**15.8109**	**0.0856**	**6.4976**	**0.0832**	**6.5808**	**1.7594**	**0.0788**	**1.8382**		**9,060.5782**	**9,060.5782**	**0.1945**	**0.8162**	**9,308.6562**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2495	10.0188	3.1190	0.0463	1.5174	0.0617	1.5792	0.4397	0.0591	0.4988		4,964.4750	4,964.4750	0.1056	0.7261	5,183.4868
Worker	1.3901	0.7518	12.6919	0.0393	4.6563	0.0215	4.6778	1.2401	0.0198	1.2599		4,096.1032	4,096.1032	0.0888	0.0901	4,125.1694
Total	**1.6396**	**10.7706**	**15.8109**	**0.0856**	**6.1737**	**0.0832**	**6.2569**	**1.6799**	**0.0788**	**1.7587**		**9,060.5782**	**9,060.5782**	**0.1945**	**0.8162**	**9,308.6562**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3212**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0349	0.0189	0.3184	9.9000e-004	0.1232	5.4000e-004	0.1238	0.0327	5.0000e-004	0.0332		102.7451	102.7451	2.2300e-003	2.2600e-003	103.4742
Total	**0.0349**	**0.0189**	**0.3184**	**9.9000e-004**	**0.1232**	**5.4000e-004**	**0.1238**	**0.0327**	**5.0000e-004**	**0.0332**		**102.7451**	**102.7451**	**2.2300e-003**	**2.2600e-003**	**103.4742**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3212**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0349	0.0189	0.3184	9.9000e-004	0.1168	5.4000e-004	0.1173	0.0311	5.0000e-004	0.0316		102.7451	102.7451	2.2300e-003	2.2600e-003	103.4742
Total	**0.0349**	**0.0189**	**0.3184**	**9.9000e-004**	**0.1168**	**5.4000e-004**	**0.1173**	**0.0311**	**5.0000e-004**	**0.0316**		**102.7451**	**102.7451**	**2.2300e-003**	**2.2600e-003**	**103.4742**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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					
Archit. Coating	364.5697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**364.7405**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.2790	0.1509	2.5469	7.8900e-003	0.9858	4.3100e-003	0.9901	0.2615	3.9700e-003	0.2654		821.9605	821.9605	0.0178	0.0181	827.7932
Total	**0.2790**	**0.1509**	**2.5469**	**7.8900e-003**	**0.9858**	**4.3100e-003**	**0.9901**	**0.2615**	**3.9700e-003**	**0.2654**		**821.9605**	**821.9605**	**0.0178**	**0.0181**	**827.7932**

Bridge Qume - Santa Clara County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	364.5697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**364.7405**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.2790	0.1509	2.5469	7.8900e-003	0.9344	4.3100e-003	0.9387	0.2489	3.9700e-003	0.2528		821.9605	821.9605	0.0178	0.0181	827.7932
Total	**0.2790**	**0.1509**	**2.5469**	**7.8900e-003**	**0.9344**	**4.3100e-003**	**0.9387**	**0.2489**	**3.9700e-003**	**0.2528**		**821.9605**	**821.9605**	**0.0178**	**0.0181**	**827.7932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Mitigated	5.0906	24.5112	53.0952	0.1858	14.5086	0.2102	14.7188	3.8792	0.1993	4.0785		19,743.0300	19,743.0300	0.8410	1.7634	20,289.5497
Unmitigated	5.0906	24.5112	53.0952	0.1858	14.5086	0.2102	14.7188	3.8792	0.1993	4.0785		19,743.0300	19,743.0300	0.8410	1.7634	20,289.5497

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	342.99	342.99	342.99	911,398	911,398
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1,694.56	1,694.56	1694.56	5,859,773	5,859,773
Total	2,037.55	2,037.55	2,037.55	6,771,171	6,771,171

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
City Park	9.50	7.30	7.30	0.00	0.00	100.00	100	0	0
General Office Building	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Refrigerated Warehouse-No	9.50	7.30	7.30	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
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Parking Lot	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Refrigerated Warehouse-No Rail	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

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	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
NaturalGas Unmitigated	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
City Park	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	887.671	9.5700e-003	0.0870	0.0731	5.2000e-004		6.6100e-003	6.6100e-003		6.6100e-003	6.6100e-003		104.4319	104.4319	2.0000e-003	1.9100e-003	105.0525
Parking Lot	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
Refrigerated Warehouse-No Rail	7192.26	0.0776	0.7051	0.5923	4.2300e-003		0.0536	0.0536		0.0536	0.0536		846.1486	846.1486	0.0162	0.0155	851.1768
Total		**0.0871**	**0.7922**	**0.6654**	**4.7500e-003**		**0.0602**	**0.0602**		**0.0602**	**0.0602**		**950.5805**	**950.5805**	**0.0182**	**0.0174**	**956.2293**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
City Park	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	0.887671	9.5700e-003	0.0870	0.0731	5.2000e-004		6.6100e-003	6.6100e-003		6.6100e-003	6.6100e-003		104.4319	104.4319	2.0000e-003	1.9100e-003	105.0525
Parking Lot	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
Refrigerated Warehouse-No Rail	7.19226	0.0776	0.7051	0.5923	4.2300e-003		0.0536	0.0536		0.0536	0.0536		846.1486	846.1486	0.0162	0.0155	851.1768
Total		**0.0871**	**0.7922**	**0.6654**	**4.7500e-003**		**0.0602**	**0.0602**		**0.0602**	**0.0602**		**950.5805**	**950.5805**	**0.0182**	**0.0174**	**956.2293**

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 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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Unmitigated	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821

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	2.0975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.4754					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0114	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Total	**17.5843**	**1.1200e-003**	**0.1233**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**0.2649**	**0.2649**	**6.9000e-004**		**0.2821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	2.0975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.4754					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0114	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Total	**17.5843**	**1.1200e-003**	**0.1233**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**0.2649**	**0.2649**	**6.9000e-004**		**0.2821**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	4	0.25	50	750	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)	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**1.2308**	**5.5041**	**3.1383**	**5.9100e-003**		**0.1811**	**0.1811**		**0.1811**	**0.1811**		**629.6356**	**629.6356**	**0.0883**		**631.8425**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Bridge Qume

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Refrigerated Warehouse-No Rail	694.49	1000sqft	16.40	694,491.00	0
Parking Lot	490.73	1000sqft	11.27	490,730.00	0
City Park	5.13	Acre	5.13	223,462.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**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 DEIR's model.

Land Use - See SWAPE comments on "Failure to Model Potential Cold Storage Requirements," and "Failure to Model All Proposed Land Uses."

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

Demolition - Consistent with the DEIR's model.

Grading - Consistent with the DEIR's model.

Vehicle Trips - Consistent with the DEIR's model.

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

Water Mitigation - Consistent with the DEIR's model.

Waste Mitigation - Consistent with the DEIR's model.

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fleet Mix - Consistent with the DEIR's model.

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

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstructionPhase	NumDays	30.00	18.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	45.00	27.00
tblConstructionPhase	NumDays	500.00	295.00
tblConstructionPhase	NumDays	35.00	21.00
tblConstructionPhase	NumDays	35.00	21.00
tblFleetMix	HHD	6.3770e-003	1.00
tblFleetMix	LDA	0.57	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.1580e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	2.7200e-003	0.00
tblFleetMix	MHD	8.0300e-003	0.00
tblFleetMix	OBUS	8.9300e-004	0.00
tblFleetMix	SBUS	9.0000e-004	0.00
tblFleetMix	UBUS	3.7200e-004	0.00
tblGrading	MaterialExported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	694,490.00	694,491.00
tblLandUse	LotAcreage	15.94	16.40
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	750.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	4.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	77.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	66.86
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.44
tblVehicleTrips	SU_TR	2.19	66.86
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.44
tblVehicleTrips	WD_TR	0.78	66.86
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.44

2.0 Emissions Summary

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2024	3.3157	65.2386	32.2998	0.2301	74.9238	1.3619	76.2400	12.0448	1.2539	13.2776	0.0000	24,631.3763	24,631.3763	1.9989	3.2986	25,658.4334
2025	365.0297	23.9855	31.3998	0.1097	6.4976	0.6110	7.1086	1.7594	0.5753	2.3347	0.0000	11,326.8198	11,326.8198	0.8068	0.8308	11,594.5528
Maximum	**365.0297**	**65.2386**	**32.2998**	**0.2301**	**74.9238**	**1.3619**	**76.2400**	**12.0448**	**1.2539**	**13.2776**	**0.0000**	**24,631.3763**	**24,631.3763**	**1.9989**	**3.2986**	**25,658.4334**

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					
2024	3.3157	65.2386	32.2998	0.2301	74.6637	1.3619	75.9799	11.9810	1.2539	13.2138	0.0000	24,631.3763	24,631.3763	1.9989	3.2986	25,658.4334
2025	365.0297	23.9855	31.3998	0.1097	6.1737	0.6110	6.7847	1.6799	0.5753	2.2552	0.0000	11,326.8198	11,326.8198	0.8068	0.8308	11,594.5528
Maximum	**365.0297**	**65.2386**	**32.2998**	**0.2301**	**74.6637**	**1.3619**	**75.9799**	**11.9810**	**1.2539**	**13.2138**	**0.0000**	**24,631.3763**	**24,631.3763**	**1.9989**	**3.2986**	**25,658.4334**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**0.00**	**0.70**	**1.04**	**0.00**	**0.92**	**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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Energy	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
Mobile	4.6745	26.4079	54.4187	0.1795	14.5086	0.2108	14.7194	3.8792	0.1998	4.0791		19,088.9131	19,088.9131	0.8942	1.8057	19,649.3625
Stationary	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**23.5768**	**32.7053**	**58.3456**	**0.1902**	**14.5086**	**0.4525**	**14.9611**	**3.8792**	**0.4415**	**4.3207**		**20,669.3940**	**20,669.3940**	**1.0013**	**1.8231**	**21,237.7164**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Energy	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
Mobile	4.6745	26.4079	54.4187	0.1795	14.5086	0.2108	14.7194	3.8792	0.1998	4.0791		19,088.9131	19,088.9131	0.8942	1.8057	19,649.3625
Stationary	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**23.5768**	**32.7053**	**58.3456**	**0.1902**	**14.5086**	**0.4525**	**14.9611**	**3.8792**	**0.4415**	**4.3207**		**20,669.3940**	**20,669.3940**	**1.0013**	**1.8231**	**21,237.7164**

	ROG	NOx	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	4/1/2024	4/24/2024	5	18	
2	Site Preparation	Site Preparation	4/25/2024	5/10/2024	5	12	
3	Grading	Grading	5/11/2024	6/18/2024	5	27	
4	Building Construction	Building Construction	6/19/2024	8/5/2025	5	295	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Paving	Paving	8/6/2025	9/3/2025	5	21	
6	Architectural Coating	Architectural Coating	9/4/2025	10/2/2025	5	21	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 81

Acres of Paving: 11.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,071,737; Non-Residential Outdoor: 357,246; Striped Parking Area: 29,444 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	5,756.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	598.00	234.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	120.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					
Fugitive Dust					69.2056	0.0000	69.2056	10.4783	0.0000	10.4783			0.0000			0.0000
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**	**69.2056**	**0.9602**	**70.1657**	**10.4783**	**0.8922**	**11.3705**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

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	0.6423	44.3350	10.2382	0.1904	5.5950	0.3555	5.9505	1.5338	0.3401	1.8739		20,786.3842	20,786.3842	0.7120	3.2958	21,786.3406
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	0.0383	0.0255	0.3223	9.5000e-004	0.1232	5.6000e-004	0.1238	0.0327	5.2000e-004	0.0332		97.5694	97.5694	2.7800e-003	2.7500e-003	98.4583
Total	**0.6805**	**44.3605**	**10.5605**	**0.1913**	**5.7182**	**0.3561**	**6.0743**	**1.5665**	**0.3406**	**1.9071**		**20,883.9536**	**20,883.9536**	**0.7148**	**3.2986**	**21,884.7989**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					69.2056	0.0000	69.2056	10.4783	0.0000	10.4783			0.0000			0.0000
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**	**69.2056**	**0.9602**	**70.1657**	**10.4783**	**0.8922**	**11.3705**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

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	0.6423	44.3350	10.2382	0.1904	5.3414	0.3555	5.6969	1.4715	0.3401	1.8116		20,786.3842	20,786.3842	0.7120	3.2958	21,786.3406
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	0.0383	0.0255	0.3223	9.5000e-004	0.1168	5.6000e-004	0.1174	0.0311	5.2000e-004	0.0316		97.5694	97.5694	2.7800e-003	2.7500e-003	98.4583
Total	**0.6805**	**44.3605**	**10.5605**	**0.1913**	**5.4582**	**0.3561**	**5.8142**	**1.5026**	**0.3406**	**1.8433**		**20,883.9536**	**20,883.9536**	**0.7148**	**3.2986**	**21,884.7989**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310		3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**19.6570**	**1.2294**	**20.8864**	**10.1025**	**1.1310**	**11.2335**		**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

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	0.0459	0.0306	0.3868	1.1300e-003	0.1479	6.8000e-004	0.1485	0.0392	6.2000e-004	0.0398		117.0833	117.0833	3.3400e-003	3.3000e-003	118.1500
Total	**0.0459**	**0.0306**	**0.3868**	**1.1300e-003**	**0.1479**	**6.8000e-004**	**0.1485**	**0.0392**	**6.2000e-004**	**0.0398**		**117.0833**	**117.0833**	**3.3400e-003**	**3.3000e-003**	**118.1500**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310	0.0000	3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**19.6570**	**1.2294**	**20.8864**	**10.1025**	**1.1310**	**11.2335**	**0.0000**	**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

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	0.0459	0.0306	0.3868	1.1300e-003	0.1402	6.8000e-004	0.1408	0.0373	6.2000e-004	0.0380		117.0833	117.0833	3.3400e-003	3.3000e-003	118.1500
Total	**0.0459**	**0.0306**	**0.3868**	**1.1300e-003**	**0.1402**	**6.8000e-004**	**0.1408**	**0.0373**	**6.2000e-004**	**0.0380**		**117.0833**	**117.0833**	**3.3400e-003**	**3.3000e-003**	**118.1500**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					9.2245	0.0000	9.2245	3.6569	0.0000	3.6569			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2245**	**1.3354**	**10.5599**	**3.6569**	**1.2286**	**4.8855**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

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	0.0465	3.2093	0.7411	0.0138	0.4050	0.0257	0.4308	0.1110	0.0246	0.1357		1,504.6896	1,504.6896	0.0515	0.2386	1,577.0747
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	0.0510	0.0340	0.4298	1.2600e-003	0.1643	7.5000e-004	0.1651	0.0436	6.9000e-004	0.0443		130.0926	130.0926	3.7100e-003	3.6700e-003	131.2777
Total	**0.0975**	**3.2433**	**1.1709**	**0.0150**	**0.5693**	**0.0265**	**0.5958**	**0.1546**	**0.0253**	**0.1799**		**1,634.7822**	**1,634.7822**	**0.0553**	**0.2423**	**1,708.3524**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					9.2245	0.0000	9.2245	3.6569	0.0000	3.6569			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2245**	**1.3354**	**10.5599**	**3.6569**	**1.2286**	**4.8855**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

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	0.0465	3.2093	0.7411	0.0138	0.3867	0.0257	0.4124	0.1065	0.0246	0.1311		1,504.6896	1,504.6896	0.0515	0.2386	1,577.0747
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	0.0510	0.0340	0.4298	1.2600e-003	0.1557	7.5000e-004	0.1565	0.0415	6.9000e-004	0.0422		130.0926	130.0926	3.7100e-003	3.6700e-003	131.2777
Total	**0.0975**	**3.2433**	**1.1709**	**0.0150**	**0.5424**	**0.0265**	**0.5689**	**0.1480**	**0.0253**	**0.1733**		**1,634.7822**	**1,634.7822**	**0.0553**	**0.2423**	**1,708.3524**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.2469	10.6433	3.2834	0.0471	1.5851	0.0619	1.6470	0.4563	0.0592	0.5156		5,057.5053	5,057.5053	0.1062	0.7420	5,281.2734
Worker	1.5259	1.0157	12.8496	0.0377	4.9124	0.0224	4.9349	1.3030	0.0207	1.3237		3,889.7681	3,889.7681	0.1108	0.1096	3,925.2039
Total	**1.7728**	**11.6590**	**16.1329**	**0.0848**	**6.4975**	**0.0844**	**6.5819**	**1.7594**	**0.0799**	**1.8392**		**8,947.2734**	**8,947.2734**	**0.2171**	**0.8516**	**9,206.4773**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.2469	10.6433	3.2834	0.0471	1.5173	0.0619	1.5793	0.4397	0.0592	0.4989		5,057.5053	5,057.5053	0.1062	0.7420	5,281.2734
Worker	1.5259	1.0157	12.8496	0.0377	4.6563	0.0224	4.6787	1.2401	0.0207	1.2608		3,889.7681	3,889.7681	0.1108	0.1096	3,925.2039
Total	**1.7728**	**11.6590**	**16.1329**	**0.0848**	**6.1736**	**0.0844**	**6.2580**	**1.6798**	**0.0799**	**1.7597**		**8,947.2734**	**8,947.2734**	**0.2171**	**0.8516**	**9,206.4773**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2409	10.5995	3.2330	0.0463	1.5852	0.0620	1.6471	0.4564	0.0593	0.5156		4,971.8561	4,971.8561	0.1050	0.7279	5,191.4010
Worker	1.4409	0.9164	12.0821	0.0365	4.9124	0.0215	4.9339	1.3030	0.0198	1.3228		3,798.4893	3,798.4893	0.1009	0.1028	3,831.6537
Total	**1.6818**	**11.5158**	**15.3151**	**0.0828**	**6.4976**	**0.0834**	**6.5810**	**1.7594**	**0.0790**	**1.8384**		**8,770.3454**	**8,770.3454**	**0.2059**	**0.8308**	**9,023.0547**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2409	10.5995	3.2330	0.0463	1.5174	0.0620	1.5794	0.4397	0.0593	0.4990		4,971.8561	4,971.8561	0.1050	0.7279	5,191.4010
Worker	1.4409	0.9164	12.0821	0.0365	4.6563	0.0215	4.6778	1.2401	0.0198	1.2599		3,798.4893	3,798.4893	0.1009	0.1028	3,831.6537
Total	**1.6818**	**11.5158**	**15.3151**	**0.0828**	**6.1737**	**0.0834**	**6.2571**	**1.6799**	**0.0790**	**1.7589**		**8,770.3454**	**8,770.3454**	**0.2059**	**0.8308**	**9,023.0547**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3212**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0361	0.0230	0.3031	9.1000e-004	0.1232	5.4000e-004	0.1238	0.0327	5.0000e-004	0.0332		95.2798	95.2798	2.5300e-003	2.5800e-003	96.1117
Total	**0.0361**	**0.0230**	**0.3031**	**9.1000e-004**	**0.1232**	**5.4000e-004**	**0.1238**	**0.0327**	**5.0000e-004**	**0.0332**		**95.2798**	**95.2798**	**2.5300e-003**	**2.5800e-003**	**96.1117**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3212**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0361	0.0230	0.3031	9.1000e-004	0.1168	5.4000e-004	0.1173	0.0311	5.0000e-004	0.0316		95.2798	95.2798	2.5300e-003	2.5800e-003	96.1117
Total	**0.0361**	**0.0230**	**0.3031**	**9.1000e-004**	**0.1168**	**5.4000e-004**	**0.1173**	**0.0311**	**5.0000e-004**	**0.0316**		**95.2798**	**95.2798**	**2.5300e-003**	**2.5800e-003**	**96.1117**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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					
Archit. Coating	364.5697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**364.7405**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.2891	0.1839	2.4245	7.3200e-003	0.9858	4.3100e-003	0.9901	0.2615	3.9700e-003	0.2654		762.2387	762.2387	0.0203	0.0206	768.8937
Total	**0.2891**	**0.1839**	**2.4245**	**7.3200e-003**	**0.9858**	**4.3100e-003**	**0.9901**	**0.2615**	**3.9700e-003**	**0.2654**		**762.2387**	**762.2387**	**0.0203**	**0.0206**	**768.8937**

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	364.5697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**364.7405**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.2891	0.1839	2.4245	7.3200e-003	0.9344	4.3100e-003	0.9387	0.2489	3.9700e-003	0.2528		762.2387	762.2387	0.0203	0.0206	768.8937
Total	**0.2891**	**0.1839**	**2.4245**	**7.3200e-003**	**0.9344**	**4.3100e-003**	**0.9387**	**0.2489**	**3.9700e-003**	**0.2528**		**762.2387**	**762.2387**	**0.0203**	**0.0206**	**768.8937**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Mitigated	4.6745	26.4079	54.4187	0.1795	14.5086	0.2108	14.7194	3.8792	0.1998	4.0791		19,088.9131	19,088.9131	0.8942	1.8057	19,649.3625
Unmitigated	4.6745	26.4079	54.4187	0.1795	14.5086	0.2108	14.7194	3.8792	0.1998	4.0791		19,088.9131	19,088.9131	0.8942	1.8057	19,649.3625

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	342.99	342.99	342.99	911,398	911,398
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1,694.56	1,694.56	1694.56	5,859,773	5,859,773
Total	2,037.55	2,037.55	2,037.55	6,771,171	6,771,171

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
City Park	9.50	7.30	7.30	0.00	0.00	100.00	100	0	0
General Office Building	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Refrigerated Warehouse-No	9.50	7.30	7.30	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
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Parking Lot	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Refrigerated Warehouse-No Rail	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

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	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293
NaturalGas Unmitigated	0.0871	0.7922	0.6654	4.7500e-003		0.0602	0.0602		0.0602	0.0602		950.5805	950.5805	0.0182	0.0174	956.2293

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
City Park	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	887.671	9.5700e-003	0.0870	0.0731	5.2000e-004		6.6100e-003	6.6100e-003		6.6100e-003	6.6100e-003		104.4319	104.4319	2.0000e-003	1.9100e-003	105.0525
Parking Lot	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
Refrigerated Warehouse-No Rail	7192.26	0.0776	0.7051	0.5923	4.2300e-003		0.0536	0.0536		0.0536	0.0536		846.1486	846.1486	0.0162	0.0155	851.1768
Total		**0.0871**	**0.7922**	**0.6654**	**4.7500e-003**		**0.0602**	**0.0602**		**0.0602**	**0.0602**		**950.5805**	**950.5805**	**0.0182**	**0.0174**	**956.2293**

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					
City Park	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	0.887671	9.5700e-003	0.0870	0.0731	5.2000e-004		6.6100e-003	6.6100e-003		6.6100e-003	6.6100e-003		104.4319	104.4319	2.0000e-003	1.9100e-003	105.0525
Parking Lot	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
Refrigerated Warehouse-No Rail	7.19226	0.0776	0.7051	0.5923	4.2300e-003		0.0536	0.0536		0.0536	0.0536		846.1486	846.1486	0.0162	0.0155	851.1768
Total		**0.0871**	**0.7922**	**0.6654**	**4.7500e-003**		**0.0602**	**0.0602**		**0.0602**	**0.0602**		**950.5805**	**950.5805**	**0.0182**	**0.0174**	**956.2293**

6.0 Area Detail

6.1 Mitigation Measures Area

Bridge Qume - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Unmitigated	17.5843	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821

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	2.0975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.4754					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0114	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Total	**17.5843**	**1.1200e-003**	**0.1233**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**0.2649**	**0.2649**	**6.9000e-004**		**0.2821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	2.0975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.4754					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0114	1.1200e-003	0.1233	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		0.2649	0.2649	6.9000e-004		0.2821
Total	**17.5843**	**1.1200e-003**	**0.1233**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**0.2649**	**0.2649**	**6.9000e-004**		**0.2821**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	4	0.25	50	750	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)	1.2308	5.5041	3.1383	5.9100e-003		0.1811	0.1811		0.1811	0.1811		629.6356	629.6356	0.0883		631.8425
Total	**1.2308**	**5.5041**	**3.1383**	**5.9100e-003**		**0.1811**	**0.1811**		**0.1811**	**0.1811**		**629.6356**	**629.6356**	**0.0883**		**631.8425**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

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

Education:

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

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

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

Positions Matt has held include:

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

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

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

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

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

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

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

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

Policy:

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

Activities included the following:

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

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

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

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

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from 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:

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 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, 5-14-2021
Trial, October 8-4-2021

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

In the United States District Court For the Northern District of Illinois
Theresa Romcoe, Plaintiff vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail, Defendants
Case No.: 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., Plaintiff vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case Number 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 *Plaintiffs*, vs. CNA Insurance Company et al.
Case Number 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, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

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

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

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

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

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

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

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

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

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

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

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

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

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

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

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 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 Number 2:07CV1052
Rosenfeld Deposition: July 2009

Letter H.2

Golden State Environmental Justice Alliance
Green Jobs & Clean Communities
P.O. Box 79222
Corona, CA 92877

December 14, 2022

Cassandra van der Zweep
Supervising Planner
City of San Jose
cassandra.vanderzweep@sanjoseca.gov

Re: Qume and Commerce Project (SCH Number 2022010603)

Dear Ms. van der Zweep:

On behalf of the Golden State Environmental Justice Alliance ("GSEJA"), I am writing to you regarding the Qume and Commerce Project (SCH Number 2022010603) ("Project").

H.26

GSEJA is withdrawing its comment letter and opposition to the Project. The Project's developer has addressed GSEJA's concerns about environmental mitigation. GSEJA asks the City not to include GSEJA'S comment letter in the Final EIR.

Sincerely,

Joe Bourgeois
Executive Director

Letter I

SCVAS
Santa Clara Valley Audubon Society

SIERRA CLUB
LOMA PRIETA CHAPTER

August 22, 2022

Cassandra van der Zweep
Environmental Project Manager
City of San Jose, PBCE
cassandra.vanderzweep@sanjoseca.gov

RE: Qume and Commerce Project H21-040, T21-040, and ER21-154

Dear Ms. van der Zweep,

I.1 The Santa Clara Valley Audubon Society and the Sierra Club Loma Prieta Chapter are environmental organizations that work to protect natural resources and promote the enjoyment of nature. We appreciate the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Qume and Commerce Project. The Project proposes to demolish existing buildings and construct four new industrial warehouse buildings. Of concern, it also plans to remove 620 trees, including oak trees that provide valuable habitat to birds and insects. Please find our comments below.

Significant loss of trees

I.2 1. The Project removes 620 existing trees, including 19 out of the 31 existing native trees and 297 ordinance-size trees, but only replaces them with 339 new trees. The DEIR acknowledges a significant impact (Impact Bio-1, Construction activities associated with the proposed Project would remove on-site trees, reducing pockets of forage and cover for native and/or migrating bird species, which could potentially interfere substantially with the movement of native resident species or movement of a migratory wildlife species). The site-specific and cumulative impact of the loss of habitat for resident and migratory bird species should be recognized as a significant unavoidable impact. The DEIR suggests that Bio-1 Mitigation Measures will reduce the impact to less-than-significant. However, this mitigation applies to the construction phase only, and does not mitigate the overall loss of habitat as the fewer, smaller trees and payment of in-lieu fees do not provide any benefit to the same migratory species in the foreseeable future and perhaps never. Therefore, Bio-1 does not mitigate the impact of "reducing pockets of forage and cover for native and/or migrating bird species, which could potentially interfere substantially with the movement of native resident species or movement of a migratory wildlife species." The impact remains significant, and, unless the Project is modified, it is unmitigable.

2. The majority of the proposed new trees are not California native trees. Native oak trees, such as the Valley Oak, support the most wildlife of all trees in our region.[1] We recommend replacing the proposed Chinkapin Oaks, which are not native to our region, with a native oak species. Not only will a native oak species support more biodiversity, it will also be more adapted to the local climate to ensure better survival. Additionally, we strongly urge the increase in the proportion of oak trees overall in relation to the dominant non-native trees. This will increase the habitat value of the new trees to help mitigate the removal of so many existing trees. Our comments are also supported by Policies MS-21.5[2] and MS-21.8[3] in Envision San Jose 2040, which seek to preserve and increase the planting of native trees. I.3
3. In addition to planting more native trees, we also encourage the landscape design to include more, if not all, native shrubs and other smaller plants. Similar to native trees, native plants support more wildlife than nonnative plants.[4] Currently, the proposal includes 7 native species, a small proportion compared to the nonnative species. Moreover, one of the proposed species of nonnative shrubs, Heavenly Bamboo, is toxic to birds.[5] Please replace this with a native species that feeds birds, such as Toyon. Native willows and/or oak trees can also be planted in the proposed bioretention areas. I.4
4. Please ensure all plants are not considered invasive species per the California Invasive Plant Council.[6] Of the current proposed plants, *Olea Europaea* is considered invasive in the Bay Area. I.5
5. DEIR p. 64 lists the number of native trees as 32, while Table 3.2-1 on the same page lists 31 native trees. Please correct this error. I.6
6. Loss of trees increases the danger from extreme heat.[7,8] The unequal distribution of cooling infrastructure in Los Angeles and other cities is one of the reasons why the health impacts of worsening heat waves fall disproportionately on the poor communities. I.7
    a. The City should replace the carbon content of the trees that will be removed. Replacing just the tree count does not mitigate the public health impacts due to extreme heat and

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[1] https://www.nytimes.com/2021/03/31/realestate/oak-trees-why-you-should-plant.html
[2] MS-21.5 As part of the development review process, preserve protected trees (as defined by the Municipal Code), and other significant trees. Avoid any adverse affect [sic] on the health and longevity of protected or other significant trees through appropriate design measures and construction practices. Special priority should be given to the preservation of native oaks and native sycamores. When tree preservation is not feasible, include appropriate tree replacement, both in number and spread of canopy.
[3] MS-21.8 For Capital Improvement Plan or other public development projects, or through the entitlement process for private development projects, require landscaping including the selection and planting of new trees to achieve the following goals: • Avoid conflicts with nearby power lines. • Avoid potential conflicts between tree roots and developed areas. • Avoid use of invasive, non-native trees. • Remove existing invasive, non-native trees. • Incorporate native trees into urban plantings in order to provide food and cover for native wildlife species. • Plant native oak trees and native sycamores on sites which have adequately sized landscape areas and which historically supported these species
[4] O'Keeffe, Liv. "Biodiversity is Everyone's Responsibility." *Flora*, vol. 1, no. 2, 2018, pp. 10-11, https://www.cnps.org/wp-content/uploads/2018/05/tallamy-article_flora-v1n2.pdf.
[5] https://ncbg.unc.edu/2022/05/04/nandina-toxic-to-birds/
[6] "The Cal-IPC Inventory – California Invasive Plant Council." *California Invasive Plant Council*, https://www.cal-ipc.org/plants/inventory/.
[7] https://www.latimes.com/environment/story/2021-10-07/la-times-investigation-extreme-heat
[8] https://www.nytimes.com/2021/07/02/climate/trees-cities-heat-waves.html

the need to stop using fossil fuels and sequester carbon to stay under Paris according to IPCC6 WGIII. I.7

b. The City should find ways to retain more of the trees onsite.

7. The Arborist Report states that the City is requiring 10' wide sidewalks along every road, encompassing the southeast and west property lines (Arborist Report Appendix E p. 7). Large mature Ashes and Red Oaks are located along Qume Drive, directly in the path of the proposed sidewalk (Arborist Report Appendix E Figure 5). Because of their size and age, these require–and deserve–more space for preservation. The City must find a way to narrow the width or shift the sidewalk far enough into the property to save these trees. I.8

This is critically important since data indicates San Jose is losing tree canopy and hence failing to meet General Plan MS-21.2 (Provide appropriate resources to preserve, protect and expand the City's Community Forest) and MS-21.4 (Encourage the maintenance of mature trees, especially natives, on public and private property as an integral part of the community forest. Prior to allowing the removal of any mature tree, pursue all reasonable measures to preserve it). Reasonable measures to modify the Project design and/or sidewalk locations, and addressing DOT policies with flexibility, could and should save dozens of trees.

a. To reduce the multiple negative impacts of loss of trees, please consider waivers of any standards that require the removal of ordinance-size trees, and modify the plans to allow preservation of the large mature ashes and red oaks located along Qume Drive, directly in the path of the proposed sidewalk.

<u>Irreplaceable Valley Oak tree</u>

8. The centuries-old Valley Oak is considered "irreplaceable" (DEIR p. 78, Arborist Report Appendix E p. 8). The Arborist Report labels it Valley Oak #572 on page 8 and #542 on page 35. This mistake can be fatal for the irreplaceable oak since tree #572 (an Ash tree) is slated for removal (Arborist Report Appendix E p. 9 and p. 37).

9. As pointed out in the Arborist Report, accidentally damaging a tree of this age can trigger a slow descent into death, since it may not be growing actively enough to repair damage or replace lost foliage. To protect the tree, the Arborist Report provides clear directions, all of which should be incorporated as Mitigation Measures: I.9

a. Every detail and change to the Project must be reviewed by a consulting arborist.
b. A consulting arborist must be on-site for any ground disturbing activities that occur near/around the tree.
c. Chain-link fencing must be installed around the planter area at the limit of grading, and additional fencing should be left on-site in perpetuity to expand the protected area after demolition.
d. Pruning of the tree should not be done unless absolutely necessary for hazard reduction, and under the supervision of a consulting arborist.

These mitigations are required to avoid damage and subsequent death of the irreplaceable ancient oak, which would constitute a significant impact.

I.9 In addition, weekly in the first month of operations, and yearly thereafter, monitoring during operations hours should be required to ensure that landscaping and operation activities are not damaging to the tree.

BIO-2 Preconstruction Bird Surveys

10. The Bay Area official bird nesting season extends from February 1st through August 31st, inclusively. This is also the date range for which preconstruction bird surveys should be conducted prior to any tree removal, demolition, and construction activities. Erroneously, Mitigation Measure BIO-2 requires preconstruction surveys in the months between August 31st and January 31st. Please correct this on pages 6 and 75 to require surveys between February 1st through August 31st, inclusively. I.10
11. Mitigation Measure BIO-2 states that preconstruction nesting surveys "shall be completed no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (February 1st through April 30th inclusive) and no more than 30 days prior to the initiation of these activities during the late part of breeding season (May 1st through August 31st inclusive)" (p. 6 and 75). Preconstruction bird nesting surveys should be conducted no more than 14 days prior to any tree removal, demolition, and construction activities during the entire nesting period. This is because many of the locally common migratory bird species nest late in the season or repeatedly in these months (Mourning Dove, Dark-eyed Junco, Anna's Hummingbird, House Finch, and others). Furthermore, birds can build a nest, lay eggs, and start raising young within two weeks, and an entire reproductive cycle may start and end within 30 days. If the purpose of the survey is to protect birds, then the survey period should be based on the minimally known nest building period for local species. I.11
12. Any reports submitted by the qualified ornithologist and the arborist prior to tree removal or construction should be made available to the public. I.12

Greenhouse gas (GHG) emissions and solar roofs

13. Under Section 3.4 Greenhouse Gas Emissions (DEIR p. 93), the first paragraph says, "The following discussion is based on the Greenhouse Gas Emissions Assessment and the report is included as Appendix F of this Draft EIR." However, this assessment is actually Appendix I. The same error is also seen on pages 108 and 110. I.13
14. We support the California Air Resources Board's Recommended Air Pollution Emission Reduction Measures for Warehouses and Distribution Centers (Appendix A p. 25) and encourage the Project to comply with these measures. Two such measures are listed below as examples. I.14
    a. Include contractual language in tenant lease agreements that requires future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
    b. Include contractual language in tenant lease agreements that requires all heavy-duty trucks entering or on the project site to be model year 2014 or later, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2023.
15. City policies and regulations do not seem to address the specific impacts of traffic to and from warehouses which constitute the primary contribution to GHG Emissions. For the Project, the primary emission source will be truck traffic related to the operations of the warehouses. I.15

I.15

Compliance with building codes requirements (City and State) do not mitigate this impact. It is unclear how the following will reduce GHG emissions from truck traffic: "At the State and global level, improvements in technology, policy, and social behavior can also influence and reduce operational emissions generated by a project. The state is currently on a pathway to achieving the Renewable Portfolio Standards goal of 33 percent renewables by 2020 and 60 percent renewables by 2030 per SB 100" (page 25). Ambitious statewide measures such as low carbon fuels, cleaner vehicles, cap-and-trade, and other strategies to promote sustainable communities and improved transportation choices also fail to address the Project's specific emissions from mobile and energy sources (trucks). Relying on City and State policies that are not specifically targeting warehouses and the unique emissions that are associated with their operations is inappropriate and does not mitigate GHG emissions to a less than significant impact.

I.16

The Project objectives include, "Seek opportunities through site design, engineering, 'green' building strategies, Low Impact Development (LID), and on-going management practices to minimize environmental impacts on the local and regional environment" (DEIR p. 25). While the Project proposes to enroll in the San José Clean Energy (SJCE) TotalGreen program and build solar-ready buildings, the increased energy demand on SJCE from the operation of the Project does not support the Project's goal of minimizing impacts. Additionally, Project operation will lead to increased toxic diesel emissions and exhaust in the vicinity as well as increased GHGs as mentioned above. None of these support San Jose's goal to be carbon neutral by 2030 (part of Climate Smart San Jose) or Goal MS-11 (Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter). The potential impact should be recognized and mitigation should include:

a. The installation of EV-ready infrastructure to facilitate the eventual transition to electric vehicles as envisioned in the DEIR and ready the Project to implement the mitigations described in comment 14 above.
b. The installation of solar panels now rather than just being solar ready. With the City of San José's pledge to become carbon neutral by the end of the decade, the Project needs to exceed the base building codes of solar-ready rooftops. The Project claims to meet carbon neutral energy requirements by purchasing electricity from SJCE, but this new demand on SJCE would add to the difficulty for SJCE (and competitors for clean energy contracts) to meet its 100% clean energy goal. The Project should provide a solar roof.
c. The installation of batteries and geothermal design to reduce demand on the grid during extreme heat occurrences when blackouts are forecasted.[9]

Valley Habitat Plan

I.17

16. Impact Bio-6 seems to suggest that the Project is exempt from the requirements of the Valley Conservation Plan. The Project is subject to the Nitrogen Deposition fees for newly generated car/truck trips.

[9] https://www.latimes.com/environment/story/2020-01-22/california-needs-clean-energy-after-sundown-geothermal-could-be-the-answer

Outdoor lighting

17. The evidence that Artificial Light At Night (ALAN) causes pervasive harm to human health, our ecosystems and our planet is overwhelming.[10] Most birds migrate at night and nocturnally migrating birds are attracted to light.[11] The National Audubon Society's Lights Out program[12] is a national effort to reduce the attraction of these birds to inhospitable locations. Since the operations of the warehouse are expected to be active 24/7, mitigations to reduce light pollution and harm to migratory birds should be provided. We recommend following the International Dark Sky Association guidelines and policies that focus on Principles for Responsible Outdoor Lighting. Here is a list of mitigation measures:
    a. The correlated color temperature of lighting should not exceed 2400K, and where light with a larger fractional emission of short wavelengths is desired, it should be carefully controlled through stringent application of the other Lighting Principles, such as lower intensity, careful targeting, and reduced operation time.
    b. All lighting fixtures should be fully shielded, and the use of up-lighting should be avoided.
    c. Over-lighting relative to task-related needs should be prevented by maintaining illuminances as close as possible to the minimum levels.
    d. All outdoor lighting fixtures should be capable of accepting 7-pin controls that can enable use of dimmers, timers, motion sensors, and networking. Lighting should be actively controlled through means such as dimmers and motion-sensing switches so as to reduce illuminances or extinguish lighting altogether when the light is not needed.
    e. All glazed surfaces should utilize a bird safety measures product with a threat factor rating of no more than 20, as rated by the American Bird Conservancy.[13]

I.18

Please do not hesitate to contact us if you have questions.

Respectfully,

Annie Yang
Environmental Action Committee Chair
Santa Clara Valley Audubon Society

Gladwyn D'Souza
Conservation Committee Chair
Sierra Club Loma Prieta Chapter

[10] https://www.darksky.org/wp-content/uploads/2022/06/IDA-State-of-the-Science-2022-EN.pdf
[11] https://www.nytimes.com/2021/04/10/us/bird-migration-lights-out.html
[12] https://www.audubon.org/conservation/project/lights-out
[13] https://abcbirds.org/glass-collisions/products-database/

Letter J

Subject: RE: Qume and Commerce Project EIR (H21-040) Tree Removal

From: Susan Butler-Graham <bigladysue@yahoo.com>
Sent: Tuesday, August 23, 2022 10:55 AM
To: Keyon, David <david.keyon@sanjoseca.gov>; Garg, Tina <Tina.Garg@sanjoseca.gov>
Subject: Fw: Qume and Commerce Project EIR (H21-040) Tree Removal

Dear Mr. Keyon and Ms. Garg,

Please accept my comments on the Qume and Commerce Project.

J1 As you may know, our tree canopy in San Jose is rapidly shrinking. In the face of this problem and our climate crisis, I was shocked to find out that the proposed Qume and Commerce warehouse project would remove over 600 trees, half of which are ordinance-sized!

Our city council has recently committed to preserving all the trees it can, as well as increasing our city's tree canopy without any net loss. Increasing our urban forest and preserving the existing trees, especially the mature ones, is crucial in order to lower temperatures, absorb carbon, clean our air, and reduce the urban heat island effect. We cannot afford to continue removing our mature trees!

Many of the trees to be removed are mature street trees. Why can't most of those trees be preserved during construction, as in most construction projects?

J2 According to the arborist's report in the EIR, "The City is also requiring 10' wide sidewalks along every road, encompassing the southeast and west property lines. Large mature ashes and red oaks are located along Qume Drive, directly in the path of the proposed sidewalk (Figure 5). Because of their size and age, they require more space for preservation – it would be challenging to narrow the width or shift the sidewalk far enough into the property to save them. Additionally, the proposed building(s) will come right up to the existing berms between the parking lots & Qume Drive – these will be graded down, requiring removal of all the trees planted in them." and in Figure 5, "Several mature trees, including ash #440 above, are located in the proposed City-mandated sidewalk. Grading of the berm above the sidewalk will require removal of London planetrees to its east (lower left)."

According to the above, no proactive, tree protection design efforts are even being proposed by the EIR arborist in order to save these 620 trees. Why can't the sidewalk be narrowed or shifted? Why can't the specs be changed to save at least the ordinance-size trees?

J3 Planting new smaller trees will not balance the removal of so many large trees. It will take decades for those small replacement trees to begin to remove the equivalent carbon dioxide now being sequestered by those large established trees. If the city is serious about fighting climate change, about increasing our urban forest, and about cooling our city, much more must be done to preserve these mature trees around this development project.

J3 I and my fellow team members at Mothers Out Front are extremely concerned about this project, and hope this destruction will not be permitted.

Sincerely,

Susan Butler-Graham
Team Coordinator
Mothers Out Front **Silicon Valley**
Pronouns: she/ella

"Climate justice is making sure that everyone has an equal opportunity for a healthy and safe life." -Dr. Ayana Elizabeth Johnson

“The iron law of climate change is that the less you did to cause it, the sooner you feel its effects...Those who poured the most carbon into the air will be dead before its effects are fully felt.” -Bill McKibben

----- Forwarded Message -----
From: Susan Butler-Graham <bigladysue@yahoo.com>
To: Cassandra.vanderZweep@sanjoseca.gov <cassandra.vanderzweep@sanjoseca.gov>; Laura.meiners@sanjoseca.gov <laura.meiners@sanjoseca.gov>
Cc: Rhonda Berry <rberry@ourcityforest.org>; Vicki Moore <vickimoore1345@gmail.com>
Sent: Tuesday, August 23, 2022, 10:46:23 AM PDT
Subject: Qume and Commerce Project EIR (H21-040) Tree Removal

Dear Ms. Van Der Zweep and Ms. Meiners,

As you may know, our tree canopy in San Jose is rapidly shrinking. In the face of this problem and our climate crisis, I was shocked to find out that the proposed Qume and Commerce warehouse project would remove over 600 trees, half of which are ordinance-sized!

Our city council has recently committed to preserving all the trees it can, as well as increasing our city's tree canopy without any net loss. Increasing our urban forest and preserving the existing trees, especially the mature ones, is crucial in order to lower temperatures, absorb carbon, clean our air, and reduce the urban heat island effect. We cannot afford to continue removing our mature trees!

Many of the trees to be removed are mature street trees. Why can't most of those trees be preserved during construction, as in most construction projects?

According to the arborist’s report in the EIR, “The City is also requiring 10’ wide sidewalks along every road, encompassing the southeast and west property lines. Large mature ashes and red oaks are located along Qume Drive, directly in the path of the proposed sidewalk (Figure 5). Because of their size and age, they require more space for preservation – it would be challenging to narrow the width or shift the sidewalk far enough into the property to save them. Additionally, the proposed building(s) will come right up to the existing berms between the parking lots & Qume Drive – these will be graded down, requiring removal of all the trees planted in them.” and in Figure 5, “Several mature trees, including ash #440 above, are located in the proposed City-mandated sidewalk. Grading of the berm above the sidewalk will require removal of London planetrees to its east (lower left).”

According to the above, no proactive, tree protection design efforts are even being proposed by the EIR arborist in order to save these 620 trees. Why can’t the sidewalk be narrowed or shifted? Why can’t the specs be changed to save at least the ordinance-size trees?

Planting new smaller trees will not balance the removal of so many large trees. It will take decades for those small replacement trees to begin to remove the equivalent carbon dioxide now being sequestered by those large established trees. If the city is serious about fighting climate change, about increasing our urban forest, and about cooling our city, much more must be done to preserve these mature trees around this development project.

I and my fellow team members at Mothers Out Front are extremely concerned about this project, and hope this destruction will not be permitted.

Sincerely,

Susan Butler-Graham
Team Coordinator
Mothers Out Front **Silicon Valley**
Pronouns: she/ella

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Letter K

Wyss, Noemi

To: Van Der Zweep, Cassandra
Subject: RE: Qume and Commerce Project EIR (H21-040 and/or T21-040) Tree Removal

---

From: Kristen Lee <kristendlee444@gmail.com>
Sent: Wednesday, August 24, 2022 10:45 AM
To: Meiners, Laura <Laura.Meiners@sanjoseca.gov>
Cc: Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>; Atienza, Manuel <Alec.Atienza@sanjoseca.gov>
Subject: Re: Qume and Commerce Project EIR (H21-040 and/or T21-040) Tree Removal

Laura, Alec, and Cassandra

I heard that the city is requiring large sidewalks and that this could be one of the reasons for felling mature trees in this area.

If you look both short term and long term, keeping the mature trees is going to benefit the community much more than increasing the width of sidewalks.

I worked in San Jose for much of my adult life (almost 14 years at Cisco and several years at Hewlett Packard Enterprise). In the areas populated by business buildings, there aren't huge crowds of people on the sidewalks. You shouldn't need to have very wide sidewalks to accommodate the walkers. I was one of those few walkers and I rarely saw others out on the sidewalks with me. If a sidewalk was narrowed to accommodate a tree, I would have appreciated the shade it would have offered. When I walk on hot days, I appreciate the shade and the respite from the heat that mature trees give (and baby trees do not). I also bicycled to work occasionally, and as you know, bikes use the street and bike lanes, not the sidewalk.

K.1

When I see rules that ask for tree-cutting to accommodate sidewalks that are not used very much, I wonder if the bigger perspective is being considered. A quick search in Google for "benefits of trees in reducing pollution" turns up the following site and many more: https://www.pca.state.mn.us/living-green/benefits-trees#

According to the Minnesota Pollution Control Agency, urban trees "Improve air quality. Leaves intercept and hold small particles on their surfaces--like dust, ash, pollen, and smoke—and absorb gaseous air pollution. Ground-level ozone formation is reduced because air temperatures in tree-filled areas are cooler." This site also lists "save energy and money," "increase property values," "reduce storm water runoff," "reduce atmospheric CO2," and "healthier communities" as benefits of trees.

Please consider this email in addition to the first one I wrote, as you look into the benefits of keeping more of the mature trees vs. cutting them down.

Thank you again for considering my request. I had just heard about this issue this week.

Kristen

On Wed, Aug 24, 2022 at 7:03 AM Kristen Lee <kristendlee444@gmail.com> wrote:

Thank you. The attachment is the same as the email.

Thanks again

On Wed, Aug 24, 2022 at 5:14 AM Meiners, Laura <Laura.Meiners@sanjoseca.gov> wrote:

Sorry, here's the attachment.

From: Meiners, Laura
Sent: Wednesday, August 24, 2022 8:14 AM
To: 'Kristen Lee' <kristendlee444@gmail.com>; Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>
Cc: Atienza, Manuel <Alec.Atienza@sanjoseca.gov>
Subject: RE: Qume and Commerce Project EIR (H21-040 and/or T21-040) Tree Removal

Kristen,

Thank you for your email. I am copying Alec Atienza, the Planning Project Manager, to this email.

Thanks!

Laura Meiners
Acting Planner IV – Supervising Planner
City of San Jose
Planning, Building, and Code Enforcement (PBCE) Department
(408) 535-7869

From: Kristen Lee <kristendlee444@gmail.com>
Sent: Wednesday, August 24, 2022 12:41 AM
To: Van Der Zweep, Cassandra <Cassandra.VanDerZweep@sanjoseca.gov>; Meiners, Laura <Laura.Meiners@sanjoseca.gov>
Subject: Qume and Commerce Project EIR (H21-040 and/or T21-040) Tree Removal

Cassandra and Laura,

I just heard today about the construction project at Qume and Commerce, and the plans to remove over 600 trees.

K.2

This is the wrong direction for the city of San Jose.

K.2 Mature trees cannot be replaced easily by young trees. It will take decades to centuries for the new trees to sequester the same amount of carbon stored already in the old trees. It will also take decades for newly planted trees to provide as much shade as older trees. Young trees are vulnerable and take much water and care, compared to older native trees. Mature trees also help preserve the integrity of our soil and ultimately help us keep a safe water supply.

In a warming climate, trees make a huge difference for cooling. Areas without shade can become heat islands. Trees also clear out pollution - a huge benefit, given that respiratory and pollution related illnesses reduce lifespan, particularly in urban and polluted areas. Trees also increase property attractiveness and value. In urban communities, poorer areas tend to have far fewer trees. Do they lack trees because they are poor? Or are the areas poor partially because of lack of trees? In either case, eliminating trees does not serve the community.

K.3

If the trees are kept, the people who eventually use the new buildings will appreciate it greatly. Over the long term, keeping mature trees will help San Jose hold and even increase its status as a great place to live and work.

Keeping the trees preserves value that is not easily recreated; felling the trees destroys this value and once lost, it is difficult to recreate this value.

As you know, San Jose has been losing its tree canopy, and city council members have been saying they want to increase it.

K.4 In order to help preserve San Jose's remaining tree canopy, please ask construction companies to build in a manner that preserves most of the existing trees. At minimum, please ask the builders to protect all of the trees near the street, and any trees around or near the perimeter of each building on the property.

Kristen Lee

2 resources covering the value of mature trees:

E&E: Old trees store more carbon, more quickly, than younger trees - Pacific Forest Trust.

Why Keeping Mature Forests Intact Is Key to the Climate Fight - Yale E360

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Letter L

Subject: RE: Qume & Commerce Draft EIR

From: Rhonda Berry <rberry@ourcityforest.org>
Subject: Draft EIR comment deadline
Date: August 22, 2022 at 9:26:21 PM PDT
To: Cassandra.vanderZweep@sanjoseca.gov
Cc: Susan Butler-Graham <bigladysue@yahoo.com>, Michele Yesney <msyesney@gmail.com>, Rita Norton <ritanorton1@gmail.com>, Vicki Moore <vickimoore1345@gmail.com>

Hi Cassandra -

I had thought this Wednesday, Aug. 24 was the last day to submit comments on the draft EIR for the Qume and Commerce project that would remove 620 trees, but I am just now seeing that your July 8th email states Monday, Aug. 22nd as the last day. This appears to be quite a terrible mistake on my part.

L.1 If the deadline was indeed 5 PM today, can you offer any flexibility for accepting public comments?

If not, how else might people express their views about this Draft EIR?

Lastly, if there is no other avenue for Draft EIR comments, when will be the next opportunity for public input on the project?

Thank you, Cassandra.

Rhonda

Rhonda Berry
President & CEO
rberry@ourcityforest.org
408-799-9502

Free trees available for eligible sites in low-canopied neighborhoods!
To find out more, please visit: https://www.ourcityforest.org/coolandgreen

…and please support our mission! Visit: ourcityforest.org/donate
Or mail a check to Our City Forest, 1195 Clark St., San Jose, CA 95125

Thank you!

OUR CITY FOREST

1195 Clark St.
San José, CA 95125
(408) 998-7337
ourcityforest.org

Cassandra van der Zweep, Environmental Project Manager
City of San José
Planning, Building & Code Enforcement
cassandra.vanderzweep@sanjoseca.gov

RE: Qume and Commerce Project H21-040, T21-040, and ER21-154

Dear Ms. van der Zweep,

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Qume and Commerce Project. Our City Forest is nonprofit urban forest organization serving San José and Santa Clara County since 1994. Our mission is to engage community in the understanding, appreciation, planting, care, and protection of the urban forest.

The focus of our comments will be on the 1) proposed removal of 620 trees to make room for four warehouse structures; 2) the impacts of such significant tree loss; and 3) what existing City laws and policies are in place to protect against such loss of benefits to the environment and the community.

L.2

1. Impacts of Tree Loss: The removal of 620 trees is significant and the DEIR understates the true environmental and human health impacts that would result while overstating the benefits of the planned mitigation. The DEIR only acknowledges a significant impact as it relates to construction activities simply describing there will be tree removals. There is no discussion of impacts to local watershed health, flooding vulnerability, climate conditions/heat, migratory bird interference, or even the heavy air particulates and pollution that the 620 threatened trees now directly mitigate and whose loss will create significant negative impacts to both climate change measures and human health. With these and other significant impacts excluded from the DEIR, attempting to evaluate even the minimal proposed mitigation is not possible.

L.3

2. Design Options: The Arborist Report cites the city-directed 10'-wide sidewalks which will result in the removal of mature trees along Qume Drive. There are no suggestions for narrowing the sidewalks or shifting them to save these trees as can be done and has been done by the City in various parts of the city. The City's General Plan states that "Prior to allowing the removal of any mature tree, pursue all reasonable measures to preserve it". There are many straightforward alternatives available to save some of the trees. This measure as a remedy to save some trees should not be used in a compromising fashion to allow other trees to be removed if they could also be saved with similar thoughtful on-site design alternatives.

L.4

3. Declining Tree Canopy: The City has recently acknowledged the continued decline of its urban forest due to tree removals, despite aggressive tree planting efforts for the past 28 years by Our City Forest. The planting of more and more young trees while simply allowing mature trees to be removed creates an unhealthy urban forest. Myriad environmental and health benefits provided by mature trees decrease as the number of mature trees declines, creating a less viable urban forest and a less healthy community in which to live. Thus, only the protection of mature trees and avoiding unnecessary removals will stop the decline of San José's urban forest.

4. City Code: The City of San José Municipal Code Chapter/Section 13.32.010 describes the purpose of the laws protecting trees on private property: "It is the purpose of this chapter to promote the health, safety, and welfare of the city by controlling the removal of trees in the city, as trees enhance the scenic beauty of the city, significantly reduce the erosion of topsoil, contribute to increased storm water quality, reduce flood hazards and risks of landslides, increase property values, reduce the cost of construction and maintenance of draining systems through the reduction of flow and the need to divert surface waters, contribute to energy efficiency and the reduction of urban temperatures, serve as windbreaks and are prime oxygen producers and air purification systems." The City of San José Tree Policy Manual states "The City of San Jose recognizes the value of these living assets by protecting them with the law". L.5

8. New City Tree Policies: The City of San José recently adopted a Community Forest Management Plan which included a commitment from Council that there be "no net loss" of trees moving forward. This type of policy can easily be abused by simply replacing mature trees and planting the same number of young trees whether on site or off, and just plant a few more at some point to create a "no net loss". The fact is, the policy is intended to reflect "no net loss of benefits" and with hundreds of trees being removed every day, there is even greater pressure on the city to avoid unnecessary tree removals. Due to the significant value of mature trees, CSJ PBCE typically requires several trees to be planted for each mature tree removed. Other cities attach a considerable monetary value in the tens of thousands to some trees. In any event, the City's CFMP states that CSJ take measure to protect its mature trees and the reason for this is because of the significant environmental and health benefits they provide which young trees – even many of them – are unable to provide for decades. L.6

9. Construction Activity: many trees designated to be "saved" in a development project are subsequently damaged and die due to unmonitored construction activities that don't follow city regulations. It is essential that a consulting arborist with construction monitoring experience be at the site during construction to ensure trees are not damaged. To protect the trees, the city regulations and policies for fencing and such must be monitored and followed. L.7

10. Irreplaceable Valley Oak: this specimen could easily be lost without adherence to the points in #8. The City should obtain a monetary value for this tree from a consulting arborist prior to any groundbreaking and also alert the builder as to its value. Perhaps this might encourage adherence to construction regulations intended to protect trees. L.8

11. Species Selections: current species selections need review to increase local natives and to replace invasive, toxic and other unsuitable shrubs with appropriate species. L.9

Thank you for your consideration and the opportunity to submit comments,

Rhonda Berry
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Our City Forest