NORTHGATE INDUSTRIAL PARK PROJECT (P22-017)

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION ERRATA AND COMMENTS & RESPONSES

City of SACRAMENTO
Community Development

October 2022

Northgate Industrial Park Initial Study/Mitigated Negative Declaration Errata

This errata presents, in ~~strike-through~~ and double-underline format, the revisions to the Northgate Industrial Park Project IS/MND. The revisions to the IS/MND reflected in this errata do not affect the adequacy of the previous environmental analysis contained in the IS/MND. Because the changes presented below would not result in any new significant impacts or increase in impact significance from what was identified in the IS/MND, recirculation of the Northgate Industrial Park IS/MND is not required.

Staff-Initiated Revisions to the Initial Study

The following staff-initiated changes are made to clarify the IS/MND.

1. Page 32 of the IS/MND has been revised:

> "Information in this section is based on a review of relevant documentation for the project site and surrounding vicinity, database searches, and a biological survey conducted by ESA biologists between the hours of 8:00 AM and 11:00 AM on May 6, 2022."

The change is for clarification purposes only and does not alter the analysis of conclusions of the IS/MND.

Revisions to the Initial Study in Response to Comments

The following changes are made in response to comments received on the IS/MND.

The following changes are made to the Air Quality section in response to comments received on the IS/MND.

1. Table 2 on Page 26 of the IS/MND has been revised:

TABLE 2
MAXIMUM DAILY EMISSIONS FROM PROJECT CONSTRUCTION

Construction Year	Maximum Daily Construction Emissions (lbs/day)	
	ROG	NOx
2022	3.0~~2.9~~	31.5~~28.9~~
2023	22.7~~22.4~~	30.0~~28.2~~
2024	20.3	11.1
SMAQMD Significance Threshold	--	85
Maximum Emissions	**22.7~~22.4~~**	**31.5~~28.9~~**
Significant?	No	No

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

2. Table 3 on Page 27 of the IS/MND has been revised:

TABLE 3
MAXIMUM DAILY ROG AND NO_X EMISSIONS FROM PROJECT OPERATION

Source	Maximum Daily Operational Emissions (lbs/day)	
	ROG	NO_X
Existing		
Area Sources	3.7	<0.01
Energy (Natural Gas Combustion)	<0.1	0.3
Mobile Sources	43.2	31.4
Existing Total	46.9	31.7
Proposed Project		
Area Sources	6.4	<0.01
Energy (Natural Gas Combustion)	<0.1	0.02~~0.04~~
Mobile Sources	3.1~~3.5~~	3.2~~3.6~~
Offroad Equipment	0.8~~0.4~~	11.6~~6.1~~
Proposed Project Total	**10.2~~10.3~~**	**14.8~~9.7~~**
Net Change with Project	-36.7	-16.9~~-21.9~~
SMAQMD Significance Threshold	65	65
Significant?	No	No

Source: Table compiled by ESA in 2022 based on Appendix A.

3. Tables 4 and 5 on Page 28 of the IS/MND have been revised:

TABLE 4
UNMITIGATED PROJECT CONSTRUCTION EMISSIONS

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	3.5~~0.60~~	1.5~~0.27~~	0.13~~0.11~~	0.05
2023	3.2~~1.75~~	1.7~~0.82~~	0.34~~0.32~~	0.18~~0.15~~
2024	0.9~~0.44~~	0.6~~0.05~~	0.03~~0.02~~	0.02~~0.01~~
SMAQMD Thresholds	0	0	0	0
Maximum Emissions	**3.5~~1.75~~**	**1.7~~0.82~~**	**0.34~~0.32~~**	**0.18~~0.15~~**
Significant (Yes or No)?	Yes	Yes	Yes	Yes

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

1 Project construction emissions were estimated using CalEEMod, Version 2020.4.0. See Appendix A for model outputs and detailed assumptions.

2 Values in bold are in excess of the applicable SMAQMD significance threshold.

3 SMAQMD has established a zero-emissions threshold for PM10 and PM2.5 when projects do not implement SMAQMD's BMPs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

TABLE 5
MITIGATED PM EMISSIONS FROM PROJECT CONSTRUCTION

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	2.63~~.2~~	1.4	0.090~~.12~~	0.05
2023	2.93~~.1~~	1.71~~.6~~	0.320~~.33~~	0.170~~.16~~
2024	0.9	0.6	0.03	0.02
Maximum Emissions	2.93~~.2~~	1.71~~.6~~	0.320~~.33~~	0.170~~.16~~
SMAQMD Thresholds	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

[1] Project construction emissions estimates were made using the CalEEMod, Version 2020.4.0. See Appendix A for assumptions and model outputs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

4. Table 6 on Page 29 of the IS/MND have been revised:

TABLE 6
PM EMISSIONS FROM PROJECT OPERATION

Operational Source	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Existing Uses	33.0	9.1	4.55	1.25
Proposed Project	5.96~~.4~~	1.81~~.9~~	0.971~~.10~~	0.270~~.30~~
Net Change	-27.2~~-26.6~~	-7.3~~-7.2~~	-3.6~~-3.4~~	-1.0
SMAQMD Thresholds	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

[1] Project operation emissions estimates were made using the California Emissions Estimator Model, Version 2020.4.0. See Appendix A for assumptions and model outputs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

The changes are made to update construction and operational emissions based on the revised CalEEMod run conducted to include demolition waste haul trips and off-road operational equipment use at the warehouse.

The following changes are made to the Energy section in response to comments received on the IS/MND.

5. The first paragraph on Page 53 of the IS/MND has been revised:

> "Over the course of construction, the project is expected to consume approximately 86,312~~78,862~~ gallons of diesel fuel from construction equipment and vehicles, and approximately 14,300 gallons of gasoline from worker transportation."

6. The fourth paragraph on Page 53 of the IS/MND has been revised:

> "Once operational, project trips would be conservatively estimated to consume up to approximately 105,001~~79,999~~ gallons of gasoline~~. and~~ 26,134~~15,891~~ gallons of diesel and 18,370 standard cubic feet of compressed natural gas annually. Electricity use would amount to up to approximately 1,197~~848~~ Megawatt hours per year assuming all natural gas energy needs associated with Building B would be met by electricity. Building A would continue to be served by natural gas in addition to electricity."

The changes are made to update construction and operational energy use estimates based on the revised CalEEMod run conducted to include demolition waste haul trips and off-road operational equipment use at the warehouse.

The following changes are made to the GHG section in response to comments received on the IS/MND.

1. Table 9 on Page 60 of the IS/MND has been revised:

TABLE 9
PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	$MTCO_2e$/year
2022	195~~162~~
2023	732~~688~~
2024	91
Construction Emissions Significance Threshold	1,100
Maximum Emissions	732~~688~~
Exceeds Threshold?	**No**

NOTES: CO2e = carbon dioxide equivalent, MT = metric tons
Project construction emissions were estimated using CalEEMod version 2020.4.0. See Appendix A for model outputs and detailed assumptions.
SOURCE: ESA, 2022.

The changes are made to update construction GHG estimates based on the revised CalEEMod run conducted to include demolition waste haul trips.

2. The following changes have been made to Page 61 of the IS/MND:

> "~~Though the proposed project completely implements BMP 1 and BMP 2, operational GHG emissions generated a significant impact would occur. Per SMAQMD guidance, GHG emission reductions that would have occurred had BMP 1 been implemented have been estimated. The project would be required to implement **Mitigation Measure 6-1** which includes on-site measures to offset these emissions.~~"

The change is made to delete text no longer applicable from a previous version of the section.

"**Table 10** shows the project's operational emissions including implementation of BMP 1 would be 1,6681,670 $MTCO_2e$ per year, which would exceed 1,100 $MTCO_2e$ per year. However, the proposed project would replace an existing use at the project site that is currently generating emissions. Operational GHG emissions from the existing uses at the project site are also shown in Table 106. After accounting for existing emissions, the proposed project would result in a net decrease in annual operational emissions. This is primarily due to the fact that the proposed project would replace an existing use that currently generates more vehicle trips and VMT than the project. As the project would fully implement BMP 1 and BMP 2 and would result in a net increase in operational emissions less than 1,100 $MTCO_2e$ per year, this impact would be ***less than significant***."

TABLE 10
PROPOSED PROJECT AND EXISTING OPERATIONAL GREENHOUSE GAS EMISSIONS

Source	$MTCO_2e$ per year
Proposed Project	
Area	<0.1
Energy ~~Electricity Use (Natural Gas)~~	84.14
~~Electricity Use (Electricity)~~	~~145~~
Mobile	993
Offroad Equipment	375~~313~~
Waste	126
Water	90
Proposed Project Total	**1,6681,671**
Operational Emissions Significance Threshold	1,100
Existing	
Area	<0.01
Energy ~~Electricity Use (Natural Gas)~~	401~~54~~
~~Electricity Use (Electricity)~~	~~347~~
Mobile	4,502
Waste	236
Water	30
Existing Total	**5,169**
Net Change with Project	**-3,5013,498**
Exceeds Threshold Requiring Implementation of BMP 3?	**No**

NOTES: $MTCO_2e$ = metric tons of carbon dioxide equivalent
Operational GHG emissions for the existing uses and the proposed project were estimated using CalEEMod version 2020.4.0. See Appendix A for model outputs and more detailed assumptions.
SOURCE: ESA, 2022.

Attachment: Comments and Responses to Comments Memo

ESA

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memorandum

date September 30, 2022

to Scott Johnson, Environmental Planner, City of Sacramento

from Jon Teofilo

subject Northgate Industrial Park Project (P22-017) Initial Study Response to Comments and Errata – September 30, 2022

Response to Comments

Following the close of the Initial Study public comment period (August 17, 2022 through September 15, 2022), five comment letters were submitted to the City of Sacramento regarding the proposed Northgate Industrial Park Project (proposed project). Written comments were received as follows:

Letter #	Entity	Type of Entity	Author(s) of Comment Letter/e-mail	Date Received
1	Lozeau Drury, LLP	Organization	Amalia Bowley Fuentes	September 15, 2022
2	Blum Collins & Ho, LLP	Organization	Gary Ho	September 15, 2022
3	Central Valley Regional Water Quality Control Board	Agency	Peter Minkel, Engineering Geologist	September 15, 2022
4	California Department of Transportation (Caltrans)	Agency	Gary Arnold, Branch Chief	September 9, 2022
5	SMAQMD	Agency	Molly Wright	September 16, 2022

Letters 1 and 2 included several distinct comments challenging various aspects of the IS/MND, for which responses and resulting revisions to the IS/MND are provided in this memorandum. Letters 3, 4, and 5 are from regulatory agencies and do not provide significant comments on the IS/MND. Therefore, general responses to those letters are also provided in this memorandum.

Master Response 1: Environmental Baseline

Comments from Letters 1 and 2 assert that the environmental baseline in the IS/MND used for the analyses of vehicle miles traveled (VMT), air quality emissions, greenhouse gas emissions, and noise impacts, is not appropriate. To the contrary, as presented below, the establishment of retail use of the project site in the environmental baseline is both reasonable and appropriate based on the historic uses of the site and the current land use entitlements that regulate development of the site.

As described on Page 4 of the IS/MND, the current structure on the project site is a retail building that is currently unoccupied. The existing building on the project site has been a major electronics retailer for at least 2 decades,

originally an Incredible Universe owned by Radio Shack. The most recent operator of the building on the project site was Fry's Electronics, which permanently closed in December of 2020 in the midst of the COVID pandemic disruption of in-person retail activities, and ceased all operations at the project site in the Summer of 2021. The retail structure has remained vacant since that time. Since the site became vacant preliminary planning for the current development proposal has been ongoing, and a formal development application was submitted to the City on March 24, 2022.

Despite this short period of vacancy, the project site allows future retail users to occupy the project buildings and operate at the project site without discretionary action by the City. Given the existing General Plan land use designation, zoning, visible location adjacent to the I-80/Northgate interchange, and existing site development, which supported the prior retail use, the analysis of VMT impacts of the proposed project presented in the IS/MND, and the VMT technical report included in Appendix D of the IS/MND, reasonably assumes that future use of the project site would likely be retail.. The City concurs with this assumption and recognizes that in the future without the entitlement changes that would occur under the current development proposal, the project site would most likely continue to be used for retail purposes.

The assumption of active retail use as a baseline for analysis is also relevant to the cumulative context for the project. The project site was in active use as a retail establishment when the Sacramento 2035 General Plan Master Environmental Impact Report (Master EIR) was certified, on March 3, 2015. Therefore, the environmental analysis included in the Master EIR assumes active use of the project site as a large retail store. The existing conditions for air quality impacts, greenhouse gas emissions, energy use, transportation impacts, and noise impacts disclosed in the Master EIR reflect an operational level of intensity consistent with an active retail site. This level of intensity is reflected in the air quality model, greenhouse gas emissions model, level of service (LOS) model, and noise model upon which the analysis and conclusions in the Master EIR are based. Therefore, an accurate evaluation of the net changes that would result from proposed future uses of the project site requires the reduction of the retail uses that existed on the project site at time of the Master EIR from those models, and the addition of the proposed use in its place. The difference between the impacts of the existing uses (retail) and proposed uses (warehouse/industrial) is how impacts of the proposed project are most appropriately reflected in the regional models and environmental analysis.

The VMT Assessment prepared for the proposed project (included in Appendix D of the IS/MND) demonstrates the proposed warehouse/industrial project would generate 5,509 fewer average daily trips relative to the existing retail use (see page 89 and Appendix D, Page 2, Table 1, of the IS/MND), and would result in a net reduction of 25,242 VMT. Consistent with the discussion above, the proposed project would replace the existing developed VMT-generating land use which would lead to an overall net decrease in VMT. The net decrease in VMT would be reflected in a commensurate decrease in mobile emissions and overall project emissions, resulting in a net reduction of 36.7 pounds per day of ROG emissions and 21 points per day of NOX emissions, as shown on Page 27, Table 3, of the IS/MND.

This existing baseline above is similarly represented in the SACOG vehicle travel demand model, which was based on land use assumptions and modeling inputs that predated the December 2020 closure of the Fry's Electronics store at the project site. The SACOG model is the source of the "regional average VMT" calculation

that forms the threshold of significance for this impact, which is 15 percent below the regional average work tour VMT of 21.3 VMT per job. Thus, it is appropriate to net out the use that was previously assumed and replace it with the new use, accounting for the changed condition with the project.

For the reasons described above, comments which assert that the IS/MND included an improper baseline for analysis are incorrect. The analytically correct and appropriate baseline for activity at the project site, for the analysis of air emissions, greenhouse gas emissions, VMT, and noise, is operation of the project site as an active retail use. *North County Advocates v City of Carlsbad* (2015) 241 Cal.App.4th 94 [use of historical occupancy rates at a retail center as appropriate baseline, even though area had been vacant for several years]. In this regard, t State CEQA Guidelines section 15125(a)(1) confirms that

> *Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.*

In the case of the IS/MND, as described by and based on the substantial evidence cited above, the evaluation of the change of the project site from the previous large-scale retail uses to the proposed warehouse/industrial project provides the most accurate assessment of the changes in the environmental conditions on the site and in the project area that would occur with approval of the proposed project.

Responses to Comments from Lozeau Drury, LLP (LD)

O-LD - 1 **Unsubstantiated changes to individual construction phase lengths and off-road equipment input.** The commenter asserts that changes made to the default values for construction phase durations and equipment lists in CalEEMod for the estimation of criteria air pollutants and greenhouse gases (GHGs) were not justified by substantial evidence. However, all changes made to the defaults were based on data provided by the applicant in response to a Request for Information submitted by ESA and hence justified. The RFI response has been included as **Attachment AQ 1** to this memo.

It must be noted that the CalEEMod run conservatively models emissions assuming new construction of 265,686 square feet of building area when the actual new construction area would only be 109,673 square feet and the remaining 156,013 square feet would be repurposed area from the former Fry's Electronics retail store building. As an equipment list for building renovation was not available, the analysis conservatively assumed all new construction. In reality, renovation would not require heavy duty earth moving equipment which contribute to bulk of the construction emissions. Therefore, the emissions presented in the IS/MND are conservative.

Failure to model proposed parking land use. Though the analysis did not model parking as a separate land use, the analysis is based not on CalEEMod defaults but project-specific data provided by the Applicant which provide construction phase durations and equipment data for the entirety of construction activities associated with the project including construction of the parking lot. The parking lot would have to be modeled as a separate land use if the analysis relied on CalEEMod defaults.

Once operational, the parking lot is an ancillary use that supports the warehouse uses and would not generate new vehicle trips. Any off-gassing reactive organic gas (ROG) emissions from maintenance of the parking lot would not be considered new emissions as there currently is a larger parking lot at the site that is generating ROG emissions from maintenance activities.

Failure to include demolition. As detailed in the Project Description, the project would involve repurposing of the former Fry's Electronics building. There would be no demolition of structures. However, approximately 3.28 acres of the existing parking lot would be removed to make space for the new building. The amount of demolition waste was estimated and CalEEMod was rerun with 990 truck trips during the site preparation phase to account for the removal of the existing parking lot area in the location of proposed Building B. Adding the demolition truck trips would increase maximum daily emissions of NOx by 2.6 pounds per day from 28.9 to 31.5 pounds per day. Maximum daily emissions of ROG, PM_{10} and $PM_{2.5}$ would increase by 0.3, 0.3, and 0.1 pounds per day respectively. However, none of these increases would result in an exceedance of the SMAQMD thresholds for construction and the conclusions remain unchanged. CalEEMod outputs for the run including demolition truck trips are included as **Attachment AQ 2** to this memo.

O-LD - 2 The commenter details results of bird surveys conducted by the commenter's consultant at the project site on August 28, 2022, which identified numerous bird species and evidence of bird nesting activity. The commenter's effort at cataloguing bird species diversity and behavior within the project site is noted. The commenter lists species observed as well as wildlife species documented in the vicinity on the citizen science databases eBird and iNaturalist and assessed the likelihood for these species to occur on the project site (comment letter Table 2, pg. 50 et seq., pp. 15 to 19). Per the commenter's consultant's Table 2, wildlife with potential to occur within the project site include several species of birds and bats. All native migratory nesting bird species are protected under MBTA and California Fish and Game Code. The project's IS/MND identifies the potential for nesting birds and roosting bats to occur onsite. Mitigation measures BIO-1 (Avoid and Minimize Impacts on Nesting Birds), BIO-2 (Avoid and Minimize Impacts on Western Burrowing Owl) and BIO-3 (Avoid and Minimize Impact on Roosting Bats) described in the IS/MND would implement surveys intended to detect the presence of such species prior to the start of construction and would minimize significant impacts to special-status and common species of bats and birds by protecting active nests and roost sites, consistent with State and federal regulations.

O-LD - 3 The comment asserts that the IS/MND is inadequate in its characterization of the existing environmental setting as it relates to wildlife and that the reconnaissance survey conducted for the City of Sacramento failed to give details on methodology necessary to interpret the survey results and that the IS/MND is inadequately informed by surveys for wildlife at the project site. The purpose of reconnaissance surveys is to characterize the affected environment for biological resources by assessing existing habitat communities and general conditions on site. These existing conditions were compared to the habitat requirements of the regionally occurring special-status species and used to determine which of these species had the potential to occur within or adjacent to the project footprint. This information, along with other sources listed in the IS/MND and best professional judgement, was used to inform impact assessments for biological resources on the site. While individual wildlife and plant species observed on site were recorded during the reconnaissance survey, a species' absence at the time of the survey was not interpreted as true absence or lack of potential to occur on the project site. Regardless, the following staff-initiated change was made to the IS/MND in order to include additional details on the reconnaissance survey timing:

Page 32 of the IS/MND has been revised as follows:

> "Information in this section is based on a review of relevant documentation for the project site and surrounding vicinity, database searches, and a biological survey conducted by ESA biologists between the hours of 8:00 AM and 11:00 AM on May 6, 2022."

O-LD - 4 The comment states that the IS/MND failed to describe having completed detection surveys for Swainson's hawk and burrowing owls and therefore the absence determinations for these species lack supporting evidence. As stated in the response to O-LD -5, while individual wildlife and plant species observed on site were recorded during the reconnaissance survey, a species' absence at the time of the survey was not interpreted as true absence or lack of potential to occur on the project site. Rather, habitat characteristics of the site and surrounding area, species occurrence records (e.g., from the California Natural Diversity Database, California Native Plant Society, citizen science databases, and scientific literature), as well as any species observed at the time of the survey were used to inform potential for occurrence on the site. It should be noted that both Swainson's hawk and burrowing owl were assessed in the IS/MND as having a high potential to occur within or near the project site. As such, focused detection surveys were determined to not be necessary at this time. Mitigation Measures Mitigation measures BIO-1 (Avoid and Minimize Impacts on Nesting Birds) and BIO-2 (Avoid and Minimize Impacts on Western Burrowing Owl) are included in the IS/MND to minimize potential impacts to less than significant for Swainson's hawk, burrowing owl, and other nesting birds. These measures reference the accepted survey and mitigation protocols Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley (Swainson's Hawk Technical Advisory Committee 2000) and the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game, 2012). For these reasons, the IS/MND includes an appropriate level of analysis for Swainson's hawk and burrowing owl, has identified appropriate measures for the identification and protection of such species, and the resulting project impacts to such species would be less than significant, as was concluded in the IS/MND.

O-LD - 5 The commenter asserts that the IS/MND provides a "skewed baseline." As noted in **Master Response 1** and responses to O-LD-3 and O-LD-4, the project site is located within an urban, developed lot and was surveyed by biologists to help describe an environmental baseline that was used to assess potential impacts to biological resources.

O-LD - 6 The comment asserts that that the IS/MND improperly screened out species based on their absence from California Natural Diversity Database records and that a sufficient survey effort should be directed to the site to either confirm these species use the site or to support absence determinations. A potential list of special-status species was developed based on species lists obtained from the U.S. Fish and Wildlife Service, California Natural Diversity Database, and California Native Plant Society, as is standard practice, and included in Appendix B of the IS/MND. Habitat characteristics of the site and surrounding area, species occurrence records (e.g., from the California Natural Diversity Database, California Native Plant Society, citizen science databases, and scientific literature), as well as any species or suitable habitat observed at the time of the reconnaissance survey were used to inform potential for occurrence on the site. The comment is correct that the lack of an occurrence record on the California Natural Diversity Database, as well as the lack of an observation during a site survey, should not be interpreted as true absence or lack of potential to occur on the project site.

O-LD - 7 The commenter asserts that the IS/MND fails to analyze the project's impact on habitat loss and would contribute to the decline in birds. As noted in the Project Description on Page 4 of the

IS/MND and **Master Response 1**, the project site is an existing urbanized development consisting of a former Fry's Electronics building and associated parking lot. Ornamental, landscape trees are present within the parking lot. While trees and shrubs and even buildings on or surrounding the site may provide at least marginally suitable nesting habitat for bird species, the overall habitat quality on the site would not significantly change as the site would transition from one commercial use to another. Implementation of IS/MND Mitigation Measures BIO-1, BIO-2, and BIO-3 would ensure that any trees removed would be surveyed for active bird nests or potential bat roosting prior to construction, and that any active bird nests or bat roosts be protected by no-disturbance buffers.

In addition, as stated on Page 40 of the IS/MND, the applicant would be required to obtain a tree permit for any existing tree resource protected under City Code 12.56 and proposed for removal, as is required for the proposed project. Replacement measures for the loss of Private Protected Trees must provide for the replacement of one tree for each Private Protected Tree removed. Any other tree replacement plan for other existing tree resources would be determined in consultation with the City's Director of the Department of Public Works and could include on-site or off-site replacement, payment of an in-lieu fee, or credit for existing trees that are preserved on the same lot.

O-LD - 8 The comment asserts that the IS/MND fails to adequately analyze the project's impact on wildlife movement as the project site is critically important for wildlife movement because it composes an increasingly diminishing area of open space within a growing expanse of anthropogenic uses. Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one home range to another. Maintaining the continuity of established wildlife corridors is important to sustain species with specific foraging requirements, preserve a species' distribution potential, and retain diversity among many wildlife populations. Urbanized habitats such as parking lots and developed commercial shopping centers may provide at least some marginally suitable habitat to wildlife species but are generally not expected to act as critical migratory, breeding, or foraging habitat for the majority of wildlife species. In addition, the project site is not mapped within the range of an essential connectivity area by the California Department of Fish and Wildlife (Spencer et al., 2010). Regardless, as previously stated in Response to Comment O-LD – 7, the project site is an existing urbanized development consisting of a former Fry's Electronics building and associated parking lot and no significant changes to overall habitat quality would occur from construction of the project. As such, the use of trees or structures within or surrounding the project site by any wildlife is not expected to be significantly impacted.

O-LD - 9 The comment asserts that vehicle collisions with special-status species as a result of the proposed project would cause a substantial, significant impact to wildlife, providing estimated numbers of fatalities anticipated to occur in future years as a result of vehicle traffic. The City acknowledges that vehicle traffic along roadways can result in periodic vehicle collisions with special status species, and traffic from the project may have such collisions.

Analysis of the potential for vehicle collisions with special status species was based on projected project VMT. However, the comment does not recognize the environmental baseline for analysis of VMT impacts, which accounts for the reduction in VMT from ceasing retail operations at the project site, and development of the proposed project, which would result in a net decrease in overall VMT. **Master Response 1** describes why such a baseline is appropriate for the analysis of VMT impacts from the proposed project. Based on the conclusions of the VMT analysis, the project would result in a net reduction of VMT, which could be anticipated to lessen the potential

frequency of vehicle collisions with special-status species relative to the existing environmental baseline, under the assumptions provided by the commenting consultant.

In addition to the above conclusion of a net reduction in the likelihood of vehicle collisions with special status species, it should be noted that such a metric is not a common point of analysis for infill development. The project site is located in a highly urbanized area and includes the development of an urban use on a site that is currently developed with urbanized uses. The project site is not located adjacent to critical habitat for special-status species, and City of Sacramento roadways are not considered to be substantial migration corridors for special status species. The assertion that VMT has a correlative relationship with vehicle collisions with special-status species, for projects in an urban setting, requires further defining to be relevant to the proposed project. The comment has not identified and new or substantially more severe impact that has not already been considered and evaluated in the IS/MND. No revisions to the IS/MND are required.

O-LD - 10 The comment asserts that the proposed project would result in considerable vehicle traffic on roadways within the NBHCP, and an EIR must be prepared to address such a conflict and impacts that may be caused to species within the NBHCP. Response to Comment O-LD-9, above, and **Master Response 1** clarify that implementation of the proposed project would lead to a net reduction in VMT relative to the existing environmental baseline. For this reason, and as clarified in Response to Comment O-LD-9, if the commenting consultant's assertion of a correlative relationship between project VMT and collisions with special status-species is correct, the net reduction in VMT from the proposed project would have a resultant net reduction in collisions with special-status species, thereby benefiting special-status species.

The comment also implies that use of roadways within an area covered by a habitat conservation plan would be a potential conflict with that plan, to be addressed in an EIR. The Natomas Basin Habitat Conservation Plan (NBHCP) does not identify vehicle traffic within the City of Sacramento as being in conflict with implementation of the plan. While it has been demonstrated that the project would result in a net reduction in VMT, an increase in VMT would also not result in a direct conflict with the NBHCP. Therefore, as concluded in the IS/MND, the project would not result in an adverse impact to special-status species or conflict with implementation of the NBHCP. No revisions to the IS/MND are necessary.

O-LD - 11 The commenter asserts that the IS/MND failed to analyze cumulative impacts of the project on biological resources. As previously stated in **Master Response 1** and responses to O-LD-7 and O-LD-8, the project is an urban redevelopment project that would not result in a significant change to habitat quality on the site, as one urban use would be replaced with another less intense urban use, and thereby not contribute to cumulative impacts from development. In addition, the IS/MND includes mitigation measures that would prevent potential impacts to biological resources during construction.

O-LD - 12 The comment incorrectly asserts that the analysis presented in the IS/MND relies entirely on compliance with Title 24 regulations to conclude the impact as less than significant.

The Appendix G criterion for the evaluation of energy impacts is qualitative and requires an analysis of whether a project would result in wasteful, inefficient, or unnecessary consumption of energy resources. However, there are no quantitative thresholds or metrics to determine if energy use would be considered wasteful or unnecessary. As noted by the commenter, Appendix F lists three criteria to ensure the goal of energy conservation which would imply the wise and efficient use of energy: decreasing overall per capita energy consumption, decreasing reliance on fossil

fuels such as coal, natural gas and oil, and increasing reliance on renewable energy. Compliance with Title 24 and CALGreen standards is intended to help projects achieve this goal of energy conservation. However, the less than significant impact determination is not based solely on compliance with standards.

As recommended by the guidelines in Appendix F, the analysis presented in the IS/MND includes a discussion of energy-consuming equipment and activities during both construction and operation of the proposed project, as well as an estimate of the energy requirements of the proposed project. The proposed project's impact on local and regional energy supplies depends on several factors; however, the primary energy source of concern associated with operation of the proposed project is electrical power provided by SMUD. As detailed in the IS/MND, implementing the proposed project would increase SMUD's total electrical demand by approximately 848 megawatt-hours per year, assuming all natural gas energy needs would be met by electricity. This would represent approximately 0.01 percent of the total electricity used in Sacramento County in 2020 (11,063 GWh). This amount of electrical power is negligible when compared to the amount of electricity consumed in the county on an annual basis and would not have a significant impact on the state's energy resources and would not affect base and peak period demands. The discussion under Question B also addresses the extent to which the Project would comply with existing standards and regulations. Therefore, the analysis in the IS/MND considers all applicable items from Appendix F in concluding that the proposed project would result in a less-than-significant impact with respect to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction and operation.

Responses to Comments from Blum Collins & Ho, LLP (O-BCH)

O-BCH – 1 The comment asserts that the City has incorrectly identified the project as an anticipated subsequent project identified and described in the 2035 General Plan Master EIR, suggesting that the City's approach is not in compliance with CEQA.

The IS/MND was prepared pursuant to compliance with Sections 15175 through 15179 of the CEQA Guidelines, which provides guidance regarding the appropriate use of a Master EIR. The comment asserts that Section 15177 of the CEQA Guidelines and text within the City of Sacramento 2035 General Plan provide limits on what projects can be considered anticipated subsequent projects, asserting that the project is not eligible to be considered an anticipated subsequent project.

Section 15176(d) of the CEQA Guidelines clarifies that projects that may be considered within the scope of the Master EIR do not need to have been specifically identified or listed, by name, in the Master EIR, stating:

> *"Where a Master EIR is prepared in connection with a project identified in subdivision (b)(1) of section 15175, the anticipated subsequent projects included within a Master EIR may consist of later planning approvals, including parcel-specific approvals, consistent with the overall planning decision (e.g., general plan, or specific plan, or redevelopment plan) for which the Master EIR has been prepared. Such subsequent projects shall be adequately described for purposes of subdivision (b) or of this section (15176) if the Master EIR and any other documents embodying or relating to the overall planning decision identify the land use designations and the permissible densities and intensities of use for the affected parcel(s). The proponents of such subsequent projects shall not be precluded from relying on the Master EIR*

solely because that document did not specifically identify or list, by name, the subsequent project as ultimately proposed for approval."

As described in the Section 15176(d), the project need not be listed in the Master EIR, if the project is consistent with the overall planning decision (the 2035 General Plan) for which the Master EIR was prepared. Thus, the City may consider the project to be an anticipated subsequent project to the Master EIR if it is consistent with the 2035 General Plan. The project is determined to be consistent with the 2035 General Plan, and therefore, may be considered an anticipated subsequent project within the scope of the Master EIR.

Section 15177(c) of the CEQA Guidelines identifies the role of the CEQA lead agency to determine whether a project is within the scope of the Master EIR, stating:

"whether a subsequent project is within the scope of the Master EIR is a question of fact to be determined by the lead agency based upon a review of the initial study to determine whether there are additional significant effects or new additional mitigation measures or alternatives required for the subsequent project that are not already discussed in the Master EIR."

As described in Section 15177(c), the City may review the IS/MND to determine whether the proposed project is within the scope of the Master EIR. The City has completed the review described in Section 15177(c) and found the project to be within the scope of the Master EIR.

O-BCH – 2 Section 15179 of the CEQA Guidelines provides limitations on the use of the Master EIR. The comment refers to subdivision (a) of Section 15179 to assert that the City may not use the Master EIR as a method of environmental analysis, based on the age of the document (more than five years prior to the filing of the development application) and the suggestion that the project may affect the adequacy of the Master EIR for any subsequent project that was described in the Master EIR. The comment does not acknowledge Subdivision (b) of Section 15179, which provides the following clarification:

A Master EIR that was certified more than five years prior to the filing of an application for a subsequent project described in the Master EIR may be used in accordance with this article to review such a subsequent project if the lead agency reviews the adequacy of the Master EIR and takes either of the following steps:

(1) Finds that no substantial changes have occurred with respect to the circumstances under which the Master EIR was certified, or that there is no new available information which was not known and could not have been known at the time the Master EIR was certified; or

(2) Prepares an initial study, and, pursuant to the findings of the initial study, does either (A) or (B) below:

(A) certifies a subsequent or supplemental EIR that updates or revises the Master EIR and which either:

1. is incorporated into the previously certified Master EIR, or

2. references any deletions, additions or other modifications to the previously certified Master EIR.;

(B) approves a mitigated negative declaration that addresses substantial changes that have occurred with respect to the circumstances under which the Master EIR was certified or the new information that was not known and could not have been known at the time the Master EIR was certified.

Pursuant to Section 15179(b)(1), the City has conducted review of the Master EIR and determined and intends to find that no substantial changes have occurred with respect to the circumstances under which the Master EIR was certified, and that there is no new available information which was not known and could not have been known at the time the Master EIR was certified. Moreover, these facts have been confirmed by this IS/MND, conducted pursuant to Section 15179(b)(2). For these reasons, the City has determined that the Master EIR remains relevant, and that the City may use it for the environmental analysis of projects that are within the scope of the Master EIR.

The comment also references Section 15177(a)(2), suggesting that approval of the project would affect the adequacy of the Master EIR for any subsequent project that was described in the Master EIR because the proposed project was not described in the Master EIR. The response to Comment O-BCH-1 and the first part of the response to Comment O-BCH-2 demonstrate that the project is determined to be consistent with the 2035 General Plan, the project is within the scope of the Master EIR, and the Master EIR remains relevant pursuant to the City's findings. For these reasons, the project would not affect the adequacy of the Master EIR for any subsequent project that was described in the Master EIR. Furthermore, the project will result in a substantial reduction in the level of intensity of impacts related to VMT, mobile emissions, greenhouse gas emissions, and noise, relative to the level of intensity of those impacts included in the Master EIR, as has been described in **Master Response 1**.

O-BCH – 3 The comment asserts the IS/MND does not include floor plans, elevations, detailed site plans, or a grading plan for either proposed building. The comment further describes the IS/MND as failing to provide information regarding necessary truck hauling trips for soil import and export, suggesting that an EIR should be prepared to include such components.

Section II of the IS/MND, *Project Description*, provides a narrative and graphic description of the proposed Northgate Industrial Park project (Pages 4 through 14). The project description includes details regarding the project including a reference to anticipated import/export of fill, which is anticipated to not be substantial or not be required, as site soils are anticipated to be balanced within the project site. Figure 6 in the IS/MND includes the proposed site plan for the project. The floor plans represented in Figure 6 provide the known level of detail for each building, which does not include tenant improvements, as future tenants are not known.

The IS/MND did not include figures showing proposed building elevations or a grading plan. These components are not specifically required to be included in the project description. However, the development application, which includes all required components, has been available for public review on the City's website, since submittal of the development application to the City, at https://aca-prod.accela.com/SACRAMENTO/Cap/CapDetail.aspx?Module=Planning&TabName=Planning&capID1=22CPF&capID2=00000&capID3=00017&agencyCode=SACRAMENTO&IsToShowInspection=.

O-BCH – 4 The comment identifies that the IS/MND does not include the proposed revisions to the Incredible Universe PUD as an attachment for public review. Pages 13 and 14 of the IS/MND describe the

necessary approvals for the project, which include the following revisions to the Incredible Universe PUD:

- *Amendment to the Incredible Universe PUD schematic plan to designate the site for light industrial uses.*

- *Amendment to the Incredible Universe PUD Guidelines to rename the PUD, allow for additional signage, and provide updates to make language consistent with current planning practices;*

The City provides relevant documents for the project on it's website at https://aca-prod.accela.com/SACRAMENTO/Cap/CapDetail.aspx?Module=Planning&TabName=Planning&capID1=22CPF&capID2=00000&capID3=00017&agencyCode=SACRAMENTO&IsToShowInspection=, where the proposed text revisions to the Incredible Universe PUD Guidelines are accessible for public review.

As described in the IS/MND, the PUD Guidelines require revisions to accommodate the proposed project. However, such revisions do not require changes to the 2035 General Plan land use designation, base zoning designation, North Natomas Community Plan, or regional planning documents. Further, the suggested conflicts with City policies and planning processes asserted in the comment are not alleged to result in new or more severe impacts to the environment.

O-BCH – 5 The comment identifies the project site as vacant, asserting that a vacant site with no operations is the appropriate environmental baseline for analysis of the proposed project. The comment is addressed by **Master Response 1**, which describes why operations on the project site at the level of intensity as had occurred at the project site prior to the closing of the Fry's Electronics retail store, is the appropriate environmental baseline for analysis of the proposed project.

O-BCH – 6 The comment identifies that the project does not include a consistency analysis with the City's General Plan, asserting that an EIR must be prepared which includes an analysis of the project in conjunction with all Sacramento 2035 General Plan goals and policies. A general plan consistency analysis is not a required component of CEQA analysis and has not been included in the IS/MND. However, general plan consistency is evaluated through the City's planning and entitlement process, the evaluation of which is included in the project record to be provided to the City's decision-makers.

O-BCH – 7 The comment asserts the project does not include for analysis environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project, and provides information related to the demographics of the area surrounding the project. While the comment is correct that populations in the project area have been historically subject to inordinately high levels of exposure to pollutants from a number of sources, the project would not contribute adversely to cumulative pollution levels in the project area. As described in **Master Response 1**, the project would develop a warehouse industrial use on the site of a retail use, which would result in lessened impacts related to VMT and resultant air and noise emissions, relative to continued use of the site as a large retail store. As further described in that response, while currently vacant, the project site would be anticipated to operate long term as a retail facility, unless it were to be redeveloped for other uses, as is the subject of the current development proposal. Relative to continued operation as a retail site, development and operation of the project would result in substantially less severe impacts related to VMT, air emissions, greenhouse gas emission, and noise. Therefore, implementation of the proposed project would be anticipated to

have a less severe effect on surrounding communities, relative to the environmental baseline of continued use of the project site for retail purposes.

O-BCH – 8 The commenter is incorrect in stating that the analysis under-reports the project's energy use because the modeling used for the analysis does not comply with the 2022 Building Energy Efficiency Standards and questions the use of CalEEMod as an approved tool to estimate energy use.

The energy estimates provided in the IS/MND are based on CalEEMod outputs for the air quality and GHG analysis. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model was developed for the California Air Pollution Officers Association in collaboration with air districts throughout California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, energy usage rates, etc.) have been provided by the various California Air Districts to account for local requirements and conditions. The model also incorporates statewide standards for mobile emission factors and building energy use through the California Building Energy Efficiency Standards (Title 24). The model is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California and is approved by the Bay Area Air Quality Management District for environmental review of land use projects as part of CEQA/NEPA, conducting pre-project planning, and verifying compliance with local air quality rules and regulations, etc.

CalEEMod version 2020.4.0 was used for the analysis, which was the most recent version available at the time. CalEEMod Version 2020.4.0 estimates the building energy use based on the application of the 2019 Title 24 standards. An approved version of CalEEMod that incorporated 2022 Building Efficiency Standards is not yet available. Triennial updates to the Title 24 standards aim to improve energy efficiency and reduce energy use and therefore the use of 2022 standards would reduce the project's energy use beyond 2019 standards and hence, the estimates presented in the analysis are conservative.

While the California's Building Energy Code Compliance (CBECC) software developed by the California Energy Commission is the approved model to estimate building energy use to show compliance with Title 24, it requires detailed project-specific design data that is not available at the environmental review stage of projects. CBECC would be the appropriate software to use once detailed design drawings for the project have been prepared to demonstrate compliance with energy codes or beyond-code programs. In addition, CBECC does not estimate transportation-related energy use of a project. There isn't an approved methodology or tool to estimate energy use of projects as part of their environmental review. Hence the methodology used by the analysis based on CalEEMod and published factors by The Climate Registry is justified. The spreadsheets that show the additional calculations to derive construction and operational energy use have been added to the appendix.

The comment further asserts that the incorrect environmental baseline was used for analysis of project emissions. **Master Response 1** describes the relevance of the environmental baseline used

in the IS/MND for air emissions, demonstrating that the City's use of the baseline is the correct approach to analyzing impacts related to the proposed project.

O-BCH – 9 The comment identifies areas in the site plan where truck maneuverability space overlaps the space for maneuvers of other trucks or vehicles, asserting that an analysis of the project's potential to substantially increase hazards due to a geometric design feature at the project driveways, was not completed. The comment does not acknowledge that traffic within the project site would be traveling at a rate of speed consistent with the safe movement of vehicles around a truck parking and loading area, within which trucks, vehicles, and personnel will be working. Space for the maneuvering of trucks into loading bays will overlap project driveways and it is anticipating that trucks or passenger vehicles traversing those spaces will periodically be required to wait while trucks are maneuvering into and out of loading or parking spaces. The project also does not include offsite improvements to transportation facilities.

As part of the City's development approval and design review process, the City requires the preparation of a local transportation analysis (LTA), which evaluates the potential travel patterns associated with the project, identifies design requirements necessary to meet the City's traffic safety and design standards. This process ensures that project design does not result in the creation of design features that would result in increased hazards to transportation. Through this process and based on the above considerations, no changes to the analysis in the IS/MND are required in response to the comment.

O-BCH – 10 The comment asserts that the IS/MND does not provide analysis of the project's potential to substantially increase hazards due to geometric design features at the project driveway, suggesting that the number of driveways would not be sufficient and calling for a turning radius exhibit to demonstrate the adequacy of the existing project driveway. The existing project driveway provided sufficient maneuvering space to allow trucks delivering to the Fry's Electronics warehouse retail store, formerly located at the project site, prior to its closure in December of 2020. For that reason, existing driveway design would be anticipated to be sufficient to serve the project site.

Further, as described on Page 85 of the IS/MND and affirmed in **Master Response 1**, the proposed project that is replacing the existing VMT-generating land use would lead to an overall net decrease in VMT, including a substantial decline in trip generation from trips occurring during retail operations at the project site. Thus, existing driveway facilities would not undergo a net increase in vehicle traffic, exacerbating the design capacity of the current driveway. For these reasons, the project would not be anticipated to result in an increase in hazards due to geometric design features. The comment does not identify a new or more severe project impact and revisions to the IS/MND are required in response to the comment.

O-BCH – 11 The comment identifies the project site as vacant, asserting that a vacant site with no operations is the appropriate environmental baseline for analysis of the proposed project. The comment is addressed by **Master Response 1**, which describes why operations on the project site at the level of intensity as had occurred at the project site prior to the closing of the Fry's Electronics retail store, is appropriate for analysis of the proposed project.

Response to Comments from the California Department of Transportation (Caltrans)

Comments from the Caltrans request a transportation impact study for the proposed project that should include trip generation calculations comparing current conditions with the plus proposed project conditions. The letter

also states that a VMT analysis must be included in the traffic impact study, and that, if the proposed project is found to have a less-than-significant impact to VMT, then the discussion of this finding must be included in the report. Lastly, Caltrans requests to be involved in the opportunity to review and comment on any changes related to the development of the proposed project. A Vehicle Miles Traveled Analysis is included as Appendix D of the IS/MND, which includes trip generation calculations for both existing baseline conditions and the proposed plus project conditions. Caltrans will continue to be involved in the opportunity to review and comment on any proposed project changes.

Response to Comments from the Central Valley Regional Water Quality Control Board (CVRWQCB)

Comments from the Central Valley Regional Water Quality Control Board (CVRWQCB) state that the environmental review document should evaluate potential impacts to both surface and groundwater quality. CVRWQCB comments also review various permitting requirements that the project could be subject to, such as storm water general permits, waste discharge requirements, and NPDES permits. The IS/MND evaluates relevant impacts to water quality on Pages 70 to 72, in Question A of Section 9, *Hydrology and Water Quality*, concluding that there would be no additional significant environmental effects beyond what was previously analyzed. The IS/MND also discusses project permitting requirements.

Response to Comments from the Sacramento Metropolitan Air Quality Management District (SMAQMD)

Comments from the Sacramento Metropolitan Air Quality Management District recommend that all emission tables in the MND text clearly correspond to model outputs in Appendix A. Comments further recommend the explicit inclusion of SMAQMD's Basic Construction Emission Control Practices as mitigation, in conjunction with the use of SMAQMD's non-zero thresholds of significance for PM as listed in their CEQA Guide. Lastly, the District recommends the explicit inclusion of the Tier 1 Best Management Practices (BMPs) from the Greenhouse Gas thresholds in their CEQA Guide.

SMAQMD's Basic Construction Emission Control practices are included in project implementation, as described in the analysis for Question D in Section 2, Air Quality. Additionally, the Tier 1 BMPs are explicitly included in the analysis performed for Question A in Section 7, Greenhouse Gas Emissions. The emission tables described in the comment letter each list emission values which are intended to directly correlate with values shown in Appendix A of the IS/MND. However, the comment correctly identified instances where values in Appendix A and emissions in the IS/MND were inconsistent. In response to this comment and other comments received on the IS/MND, staff has initiated minor revisions to the air quality CalEEMod modeling for project emissions, and to tables in the air quality analysis section of the IS/MND, as shown in the errata section of the memo. These revisions do not change the significance determinations or conclusions reached in any relevant impact category, but improve the accuracy of the air quality, energy, and greenhouse gas emissions analysis conducted for the IS/MND.

Northgate Industrial Park Initial Study/Mitigated Negative Declaration Errata

This errata presents, in ~~strike-through~~ and double-underline format, the revisions to the Northgate Industrial Park Project IS/MND. The revisions to the IS/MND reflected in this errata do not affect the adequacy of the previous environmental analysis contained in the IS/MND. Because the changes presented below would not result in any new significant impacts or increase in impact significance from what was identified in the IS/MND, recirculation of the Northgate Industrial Park IS/MND is not required.

Staff-Initiated Revisions to the Initial Study

The following staff-initiated changes are made to clarify the IS/MND.

1. Page 32 of the IS/MND has been revised:

> "Information in this section is based on a review of relevant documentation for the project site and surrounding vicinity, database searches, and a biological survey conducted by ESA biologists between the hours of 8:00 AM and 11:00 AM on May 6, 2022."

The change is for clarification purposes only and does not alter the analysis of conclusions of the IS/MND.

Revisions to the Initial Study in Response to Comments

The following changes are made in response to comments received on the IS/MND.

The following changes are made to the Air Quality section in response to comments received on the IS/MND.

1. Table 2 on Page 26 of the IS/MND has been revised:

TABLE 2
MAXIMUM DAILY EMISSIONS FROM PROJECT CONSTRUCTION

Construction Year	Maximum Daily Construction Emissions (lbs/day)	
	ROG	NOx
2022	3.0~~2.9~~	31.5~~28.9~~
2023	22.7~~22.4~~	30.0~~28.2~~
2024	20.3	11.1
SMAQMD Significance Threshold	--	85
Maximum Emissions	**22.7~~22.4~~**	**31.5~~28.9~~**
Significant?	No	No

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

2. Table 3 on Page 27 of the IS/MND has been revised:

TABLE 3
MAXIMUM DAILY ROG AND NO_X EMISSIONS FROM PROJECT OPERATION

Source	Maximum Daily Operational Emissions (lbs/day)	
	ROG	NO_X
Existing		
Area Sources	3.7	<0.01
Energy (Natural Gas Combustion)	<0.1	0.3
Mobile Sources	43.2	31.4
Existing Total	46.9	31.7
Proposed Project		
Area Sources	6.4	<0.01
Energy (Natural Gas Combustion)	<0.1	0.02~~0.04~~
Mobile Sources	3.1~~3.5~~	3.2~~3.6~~
Offroad Equipment	0.8~~0.4~~	11.6~~6.1~~
Proposed Project Total	**10.2~~10.3~~**	**14.8~~9.7~~**
Net Change with Project	-36.7	-16.9~~-21.9~~
SMAQMD Significance Threshold	65	65
Significant?	No	No

Source: Table compiled by ESA in 2022 based on Appendix A.

3. Tables 4 and 5 on Page 28 of the IS/MND have been revised:

TABLE 4
UNMITIGATED PROJECT CONSTRUCTION EMISSIONS

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	3.5~~0.60~~	1.5~~0.27~~	0.13~~0.11~~	0.05
2023	3.2~~1.75~~	1.7~~0.82~~	0.34~~0.32~~	0.18~~0.15~~
2024	0.9~~0.44~~	0.6~~0.05~~	0.03~~0.02~~	0.02~~0.01~~
SMAQMD Thresholds	0	0	0	0
Maximum Emissions	**3.5~~1.75~~**	**1.7~~0.82~~**	**0.34~~0.32~~**	**0.18~~0.15~~**
Significant (Yes or No)?	Yes	Yes	Yes	Yes

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

1 Project construction emissions were estimated using CalEEMod, Version 2020.4.0. See Appendix A for model outputs and detailed assumptions.

2 Values in bold are in excess of the applicable SMAQMD significance threshold.

3 SMAQMD has established a zero-emissions threshold for PM10 and PM2.5 when projects do not implement SMAQMD's BMPs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

TABLE 5
MITIGATED PM EMISSIONS FROM PROJECT CONSTRUCTION

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2022	2.6~~3.2~~	1.4	0.09~~0.12~~	0.05
2023	2.9~~3.1~~	1.7~~1.6~~	0.32~~0.33~~	0.17~~0.16~~
2024	0.9	0.6	0.03	0.02
Maximum Emissions	2.9~~3.2~~	1.7~~1.6~~	0.32~~0.33~~	0.17~~0.16~~

Construction Year	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
SMAQMD Thresholds	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

[1] Project construction emissions estimates were made using the CalEEMod, Version 2020.4.0. See Appendix A for assumptions and model outputs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

4. Table 6 on Page 29 of the IS/MND have been revised:

TABLE 6
PM EMISSIONS FROM PROJECT OPERATION

Operational Source	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Existing Uses	33.0	9.1	4.55	1.25
Proposed Project	5.9~~6.4~~	1.8~~1.9~~	0.97~~1.10~~	0.27~~0.30~~
Net Change	-27.2~~-26.6~~	-7.3~~-7.2~~	-3.6~~-3.4~~	-1.0
SMAQMD Thresholds	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No

NOTES: PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ppd = pounds per day; tpy = tons per year; SMAQMD = Sacramento Metropolitan Air Quality Management District

[1] Project operation emissions estimates were made using the California Emissions Estimator Model, Version 2020.4.0. See Appendix A for assumptions and model outputs.

SOURCE: Table compiled by ESA in 2022 based on Appendix A.

The changes are made to update construction and operational emissions based on the revised CalEEMod run conducted to include demolition waste haul trips and off-road operational equipment use at the warehouse.

The following changes are made to the Energy section in response to comments received on the IS/MND.

5. The first paragraph on Page 53 of the IS/MND has been revised:

> "Over the course of construction, the project is expected to consume approximately 86,312~~78,862~~ gallons of diesel fuel from construction equipment and vehicles, and approximately 14,300 gallons of gasoline from worker transportation."

6. The fourth paragraph on Page 53 of the IS/MND has been revised:

> "Once operational, project trips would be conservatively estimated to consume up to approximately 105,001~~79,999~~ gallons of gasoline~~, and~~ 26,134~~15,891~~ gallons of diesel and 18,370 standard cubic feet of compressed natural gas annually. Electricity use would amount to up to

approximately 1,197~~848~~ Megawatt hours per year assuming all natural gas energy needs associated with Building B would be met by electricity. Building A would continue to be served by natural gas in addition to electricity."

The changes are made to update construction and operational energy use estimates based on the revised CalEEMod run conducted to include demolition waste haul trips and off-road operational equipment use at the warehouse.

The following changes are made to the GHG section in response to comments received on the IS/MND.

1. Table 9 on Page 60 of the IS/MND has been revised:

TABLE 9
PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	$MTCO_2e$/year
2022	195~~162~~
2023	732~~688~~
2024	91
Construction Emissions Significance Threshold	1,100
Maximum Emissions	732~~688~~
Exceeds Threshold?	**No**

NOTES: CO2e = carbon dioxide equivalent, MT = metric tons
Project construction emissions were estimated using CalEEMod version 2020.4.0. See Appendix A for model outputs and detailed assumptions.
SOURCE: ESA, 2022.

The changes are made to update construction GHG estimates based on the revised CalEEMod run conducted to include demolition waste haul trips.

2. The following changes have been made to Page 61 of the IS/MND:

"~~Though the proposed project completely implements BMP 1 and BMP 2, operational GHG emissions generated a significant impact would occur. Per SMAQMD guidance, GHG emission reductions that would have occurred had BMP 1 been implemented have been estimated. The project would be required to implement **Mitigation Measure 6-1** which includes on-site measures to offset these emissions.~~"

The change is made to delete text no longer applicable from a previous version of the section.

"**Table 10** shows the project's operational emissions including implementation of BMP 1 would be 1,668~~1,670~~ $MTCO_2e$ per year, which would exceed 1,100 $MTCO_2e$ per year. However, the proposed project would replace an existing use at the project site that is currently generating

emissions. Operational GHG emissions from the existing uses at the project site are also shown in Table 10~~6~~. After accounting for existing emissions, the proposed project would result in a net decrease in annual operational emissions. This is primarily due to the fact that the proposed project would replace an existing use that currently generates more vehicle trips and VMT than the project. As the project would fully implement BMP 1 and BMP 2 and would result in a net increase in operational emissions less than 1,100 $MTCO_2e$ per year, this impact would be ***less than significant***."

TABLE 10
PROPOSED PROJECT AND EXISTING OPERATIONAL GREENHOUSE GAS EMISSIONS

Source	$MTCO_2e$ per year
Proposed Project	
Area	<0.1
Energy ~~Electricity Use (Natural Gas)~~	84.1 ~~4~~
~~Electricity Use (Electricity)~~	~~145~~
Mobile	993
Offroad Equipment	375~~313~~
Waste	126
Water	90
Proposed Project Total	**1,668~~1,671~~**
Operational Emissions Significance Threshold	1,100
Existing	
Area	<0.01
Energy ~~Electricity Use (Natural Gas)~~	401~~54~~
~~Electricity Use (Electricity)~~	~~347~~
Mobile	4,502
Waste	236
Water	30
Existing Total	**5,169**
Net Change with Project	**-3,501~~3,498~~**
Exceeds Threshold Requiring Implementation of BMP 3?	**No**

NOTES: $MTCO_2e$ = metric tons of carbon dioxide equivalent
Operational GHG emissions for the existing uses and the proposed project were estimated using CalEEMod version 2020.4.0. See Appendix A for model outputs and more detailed assumptions.
SOURCE: ESA, 2022.

LETTER 1

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VIA EMAIL

September 15, 2022

Scott Johnson, Senior Planner
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Re: Mitigated Negative Declaration for Northgate Industrial Park Project

Dear Mr. Johnson,

I am writing on behalf of Laborers' International Union of North America, Local Union No. 185 regarding the proposed development of two industrial warehouse buildings, one which will be converted from an existing warehouse retail building onsite, and the other which will be constructed on the existing parking lot onsite at 4100 Northgate Boulevard in the City of Sacramento ("Project"). The City of Sacramento ("City") has prepared a mitigated negative declaration ("MND") for the Project. We request that the City prepare an environmental impact report ("EIR") for the Project because there is a fair argument that the Project may have adverse environmental impacts.

These comments are supported by the comments of the expert consulting firm, Soil Water Air Protection Enterprise ("SWAPE"), authored by Dr. Paul Rosenfeld, Ph.D. and Matthew Hagemann, C. Hg. (Exhibit A). It is also supported by comments from expert wildlife biologist Shawn Smallwood (Exhibit B). We incorporate the SWAPE and Smallwood comments herein by reference. As explained below and in the SWAPE and Smallwood comments, there is a fair argument that the proposed Project may have significant adverse environmental impacts, and an environmental impact report ("EIR") is therefore required.

I. Legal Standard

As the Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (*Communities for a Better Environment v. South Coast Air Quality*

Management Dist. (2010) 48 Cal. 4th 310, 319-320, citing, *No Oil, Inc. v. City of Los Angeles*, 13 Cal.3d at pp. 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal. App. 3d 491, 504–505). "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.)

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

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." (Pub. Res. Code § 21080(d) (emphasis added); see also *Pocket Protectors*, 124 Cal.App.4th at 927.) In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (CEQA Guidelines § 15371), only if there is not even a "fair argument" that the project will have a significant environmental effect. (Pub. Res. Code §§ 21100, 21064.) Since "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." (*Citizens of Lake Murray v. San Diego*, 129 Cal.App.3d 436, 440 (1989).) CEQA contains a "***preference for resolving doubts in favor of environmental review***." (*Pocket Protectors*, 124 Cal.App.4th at 927 (emphasis in original).)

II. There is a Fair Argument that the Project May Have Adverse Environmental Impacts.

a. Substantial Evidence Supports a Fair Argument that the Project Will Result in Significant Unmitigated Impacts to Air Quality.

Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the environmental consulting firm SWAPE reviewed the IS/MND's analysis of the Project's O-LD-1

impacts on air quality. SWAPE's comment letter and CVs are attached as Exhibit A and their comments are briefly summarized here.

SWAPE found that the IS/MND incorrectly estimated the Project's construction and operational emissions and therefore cannot be relied upon to determine the significance of the Project's impacts on local and regional air quality. The MND relies on emissions calculated from the California Emissions Estimator Version 2020.4.0 ("CalEEMod"). (IS/MND, p. 25). This model, which is used to generate a project's construction and operational emissions, relies on recommended default values based on site specific information related to a number of factors. (Ex. A, p. 1-2). CEQA requires any changes to the default values to be justified by substantial evidence. (*Id*.)

SWAPE reviewed the IS/MND's CalEEMod output files and found that the values input into the model were inconsistent with information provided in the MND. (Ex. A, p. 2). As a result, the IS/MND's air quality analysis cannot be relied upon to determine the Project's emissions.

O-LD-1 Cont.

Specifically, SWAPE found that the following values used in the IS/MND's air quality analysis were either inconsistent with information provided in the IS/MND or otherwise unjustified:

1. Failure to Model Proposed Parking Land Use. (Ex. A, p. 2).
2. Unsubstantiated Changes to Individual Construction Phase Lengths. (Ex. A, p. 2-4).
3. Unsubstantiated Changes to Construction Off-Road Equipment Input Parameters. (Ex. A, p. 4-7).
4. Failure to Include Any Amount of Demolition. (Ex. A, p. 7-8).

Due to the use of these incorrect parameters, the MND cannot be relied upon to determine the significance of the Project's impacts. An EIR should be prepared which corrects the values pointed out by SWAPE.

b. Substantial Evidence Supports a Fair Argument that the Project Will Have Significant Adverse Biological Impacts that the MND Fails to Adequately Analyze and Mitigate.

Shawn Smallwood, Ph.D. reviewed the MND's analysis of the Project's biological impacts. Dr. Smallwood's comment letter and CV are attached as Exhibit B and his comments are briefly summarized here.

i. <u>The MND is inadequate in its characterization of the existing environmental setting as it relates to wildlife.</u>

Dr. Smallwood's comments are supported by a site visit he performed on August 28, 2022 from 6:24 – 8:59 pm. (Ex. B, p. 1). He used binoculars and scanned for wildlife from the roadside periphery of the Project site. (*Id*.) During that visit, he observed the

O-LD-2

presence of 20 species of vertebrate wildlife at the Project site, three of which are special-status species. (*Id.*, see Table 1, Ex. B, p. 2.) Dr. Smallwood observed a Nuttall's woodpecker, a special status species on the site. (*Id*., p. 4, Photos 3 and 4.) He also observed special status California gull foraging at the site. (*Id*., p. 2.) Special status Caspian doves were observed flying directly over the site by Dr. Smallwood. (*Id*., Photo 5.) Dr. Smallwood found abundant evidence of breeding on and around the site, including "nest structures in trees, juvenile birds, and social drama typical of breeding territory defense."(*Id.*) He also observed other species making food deliveries to nests and defending nest territories, and saw fledglings of mourning doves and northern mockingbirds. (*Id.*)

O-LD-2 Cont.

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. (*Communities for a Better Envt. v. So. Coast Air Qual. Mgmt. Dist*. (2010) 48 Cal. 4th 310, 321.) Dr. Smallwood found that the reconnaissance survey performed for the City of Sacramento failed to give methodological details necessary to interpret the survey's results, such as who completed the survey, what time it started, and how long it lasted. (Ex. B, p. 13). He also found that site conditions were summarized vaguely, and noted that the survey detected only 30% of the species he observed, and that the survey found no special-status species. (*Id.*) Dr. Smallwood therefore found that the MND is "inadequately informed by surveys for wildlife at the project site." (*Id.*)

O-LD-3

As for particular species, including the Swainson's hawk and burrowing owls, Dr. Smallwood stated that the MND failed to describe having completed detection surveys for these species. (*Id.*) The absence determinations for these species therefore lack supporting evidence. (*Id.*)

O-LD-4

A skewed baseline such as the one used by the City here ultimately "mislead(s) the public" by engendering inaccurate analyses of environmental impacts, mitigation measures and cumulative impacts for biological resources. (*See San Joaquin Raptor Rescue Center,* 149 Cal.App.4th 645, 656; *Woodward Park Homeowners,* 150 Cal.App.4th 683, 708-711.)

O-LD-5

The MND's biological analysis reported having reviewed the California Natural Diversity Data Base ("CNDDB") to assess occurrence potentials of special-status species onsite. However, Dr. Smallwood found that the MND improperly screened out species based on their absence from CNDDB, a use for which CNDDB is not intended. (Ex. B, p. 13-14). CNDDB is a "positive sighting database" which relies on volunteer reporting, therefore the lack of a report of a species at a certain site does not automatically mean that species does not have the potential to occur. (*Id.*)

O-LD-6

Based on Dr. Smallwood's own assessment of database reviews and his site visit, he found that "97 special-status species of wildlife are known to occur near enough to the site to be analyzed for occurrence potential at one time or another." (Ex. B, p. 14, *see* Table 2, p. 15-19). "[S]ufficient survey effort should be directed to the site to either

confirm these species use the site or to support absence determinations." (*Id.* at 14). Because of the failure to characterize the site, a fair argument exists that the Project may have a significant impact on wildlife requiring the preparation of an EIR. O-LD-6 Cont.

ii. The MND fails to analyze the Project's impact on habitat loss.

Dr. Smallwood found that the Project would contribute to a decline in birds in North America, a trend that has been happening over the last approximately 50 years largely due to habitat loss and fragmentation and would be further exacerbated by this project. (Ex. B, p. 20). Based on studies on the subject, Dr. Smallwood estimates that the presence of the Project on the site could prevent the production of 174 fledglings per year, which would in turn contribute to the lost capacity of 198 birds per year. (*Id.*) The City must address this impact in an EIR. O-LD-7

iii. The MND fails to adequately analyze the Project's impact on wildlife movement.

The MND's assessment of whether the Project would interfere with wildlife movement is flawed. (Ex. B, p. 21). The MND states that "[t]he project site does not provide a wildlife corridor or nursery as it is a developed area and surrounded by development." (*Id.*; MND, p. 35). However, Dr. Smallwood notes that in this statement, the MND implies that "only disruption of the function of a wildlife corridor can interfere with wildlife movement in the region." (*Id.* at 21). However, Dr. Smallwood states:

> The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes an increasingly diminishing area of open space within a growing expanse of anthropogenic uses, forcing more species of volant wildlife to use the site for stopover and staging during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The project would cut wildlife off from stopover and staging opportunities, forcing volant wildlife to travel even farther between remaining stopover sites.

O-LD-8

(*Id.*) An EIR should be prepared to properly analyze this impact.

iv. The MND fails to analyze the project's impacts on wildlife from additional traffic generated by the Project.

The MND estimates that the Project would lead to 2,603,990 vehicle miles traveled ("VMT"), yet it contains no analysis of the impacts on wildlife that will be caused by the traffic on the roadways servicing the Project. Vehicle collisions with special-status species is not a minor issue, but rather results in the death of millions of species each year. Dr. Smallwood explains: ". . . the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014)." (Ex. B, p. 21). O-LD-9

Using the Project's VMT estimates and information from a scientific study on road mortality, Dr. Smallwood was able to predict the Project-generated traffic impacts to wildlife. (*Id.* at 23-24). Dr. Smallwood calculates that over the course of 50 years of operation, the Project would cause an accumulated 71,350 wildlife fatalities. (*Id*.) He therefore states that "the project-generated traffic would cause substantial, significant impacts to wildlife." (*Id.* at 24). An EIR should be prepared which includes analysis and mitigation of the result increased traffic from the Project will have on wildlife.

O-LD-9 Cont.

v. The MND conflicts with the local Habitat Conservation Plan.

Although the MND concludes that the project site is in an area considered exempt from compliance with the Natomas Basin Habitat Conservation Plan (NBHCP), Dr. Smallwood notes that "the nature of the project [] requires considerable vehicle traffic on roads located well beyond the boundary of the project site." (Ex. B, p. 24). Many of the Project's estimated 2,603,990 annual VMT would be on roads that are not exempt from the NBHCP. (*Id.*) An EIR must therefore be prepared to address this conflict and the impacts that may be caused to species within the NBHCP.

O-LD-10

vi. The MND failed to address the cumulative impacts of past, ongoing, and future projects on wildlife.

The MND failed to analyze cumulative impacts of the project on biological resources. (Ex. B, p. 24). The MND relies on the City of Sacramento's General Plan policies, codes, and regional requirements, which is appropriate under CEQA. However, when relying on an approved plan to mitigate impacts, an agency must "explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." (*Id.*, quoting CEQA Guidelines § 15064(h)(3)). Here, the MND did not explain how implementing requirements from the City of Sacramento's General Plan would "minimize, avoid or offset the project's contributions to cumulative impacts." (Ex. B, p. 24). An EIR must be prepared with a revised cumulative impacts section which adequately meets CEQA requirements.

O-LD-11

c. The MND's Analysis of Energy Impacts is Conclusory and Fails to Provide Substantial Evidence that the Project's Energy Impacts will be less than Significant.

The MND relies on the Project's compliance with Title 24 regulations to conclude that the impact is less than significant. However, compliance with existing standards does not provide substantial evidence that the Project's energy impacts are less than significant.

The standard under CEQA is whether the Project would result in wasteful, inefficient, or unnecessary consumption of energy resources. Failing to undertake "an investigation into renewable energy options that might be available or appropriate for a project" violates CEQA. (*California Clean Energy Committee v. City of Woodland* (2014)

225 Cal.App.4th 173, 213.) Energy conservation under CEQA is defined as the "wise and efficient use of energy." (CEQA Guidelines, app. F, § I.) The "wise and efficient use of energy" is achieved by "(1) decreasing overall per capita energy consumption, (2) decreasing reliance on fossil fuels such as coal, natural gas and oil, and (3) increasing reliance on renewable energy resources." (*Id.*)

Simply requiring compliance with the California Building Energy Efficiency Standards (Cal.Code Regs., tit. 24, part 6 (Title 24)) does not constitute an adequate analysis of energy. (*Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256, 264-65.) Similarly, the court in *City of Woodland* held unlawful an energy analysis that relied on compliance with Title 24, that failed to assess transportation energy impacts, and that failed to address renewable energy impacts. (*California Clean Energy Committee v. City of Woodland,* 225 Cal.App.4th 173, 209-13.) As such, the MND's reliance on Title 24 compliance does not satisfy the requirements for an adequate discussion of the Project's energy impacts. O-LD-12

The MND summarily concludes that the Project would not result in the inefficient, wasteful and unnecessary consumption of energy. There is no discussion of the Project's cost effectiveness in terms of energy requirements. There is no discussion of energy consuming equipment and processes that will be used during the construction or operation of the Project, including the energy necessary to power construction equipment, forklifts, heating, cooling, truck refrigeration units, etc. The Project's energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, and maintenance were not identified. The effect of the Project on peak and base period demands for electricity has not been addressed. As such, the MND's conclusions are unsupported by the necessary discussions of the Project's energy impacts under CEQA.

C. CONCLUSION

For the foregoing reasons, SAFER requests that the City prepare an environmental impact report ("EIR") to analyze and mitigate the Project's significant adverse environmental impacts. Thank you.

Sincerely,

Amalia Bowley Fuentes

Amalia Bowley Fuentes
LOZEAU DRURY LLP

EXHIBIT A

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

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September 13, 2022

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Subject: Comments on Northgate Industrial Park Project (SCH No. 2022080348)

Dear Ms. Fuentes,

We have reviewed the August 2022 Initial Study and Mitigated Negative Declaration ("IS/MND") for the Northgate Industrial Park Project ("Project") located in the City of Sacramento ("City"). The Project proposes to repurpose the existing 156,013-square-foot ("SF") commercial building as warehouse space, and construct an additional 109,673-SF of warehouse space, as well as 426 parking spaces on the 17.55-acre site.

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

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS/MND's air quality analysis relies on emissions calculated with the California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 25).[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

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

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

When reviewing the Project's CalEEMod output files, provided in Appendix A to the IS/MND, we found that several model inputs were not consistent with information disclosed in the IS/MND. As a result, the Project's construction and operational emissions are underestimated. An EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Failure to Model Proposed Parking Land Use

According to the IS/MND:

> "The project would include 389 vehicle parking stalls […] The project would also include 37 trailer parking stalls" (p. 13).

As such, the model should have included 426 parking spaces. [2] However, review of the CalEEMod output files demonstrates that the "Northgate Industrial - Proposed" model fails to include any amount of parking (see excerpt below) (Appendix A, pp. 31, 67).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Unrefrigerated Warehouse-No Rail	265.69	1000sqft	17.55	265,686.00

As demonstrated above, the models fail to include any of the 426 proposed parking spaces. This omission presents an issue, as the square footage of parking land uses is used for certain calculations such as determining the area to be painted and stripped (i.e., VOC emissions from architectural coatings) and area to include lighting (i.e., energy impacts). [3] Thus, by failing to include the proposed parking spaces, the model underestimates the Project's construction-related and 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 "Northgate Industrial - Proposed" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 32, 68).

[2] Calculated: (389 automobile parking spaces) + (37 trailer parking stalls) = 426 total parking spaces.
[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 2, 22.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	10.00	65.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A pp. 38, 39, 73, 74).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Site Preparation	Site Preparation	10/1/2022	12/31/2022	5	65
2	Grading	Grading	10/1/2022	3/31/2023	5	130
3	Building Construction	Building Construction	1/1/2023	12/31/2023	5	260
4	Paving	Paving	10/1/2023	3/31/2024	5	130
5	Architectural Coating	Architectural Coating	10/1/2023	3/31/2024	5	130

As demonstrated above, the site preparation phase is increased by 550%, from the default value of 10 to 65 days; the grading phase is increased by 333%, from the default value of 30 to 130 days; the building construction phase is decreased by 13%, from the default value of 300 to 260 days; the paving phase is increased by 550%, from the default value of 20 to 130 days; and the architectural coating phase is increased by 550%, from the default value of 20 to 130 days. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[4] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Project data. Added Architectural Coatings phase conservatively assumed to be concurrent with paving" (Appendix A, pp. 31, 67).

Furthermore, regarding the Project's anticipated construction schedule, the IS/MND states:

> "Project construction is anticipated to begin in 2023 and last for approximately 15 months" (p. 13).

However, these changes remain unsupported. While the IS/MND indicates the total construction duration, the IS/MND fails to mention or justify the individual construction phase lengths. This is incorrect, as according to the CalEEMod User's Guide:

[4] "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.

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

Here, as the IS/MND only justifies the total construction duration of 15 months, the IS/MND 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).[6]

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

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

Unsubstantiated Changes to Construction Off-Road Equipment Input Parameters

Review of the CalEEMod output files demonstrates that the "Northgate Industrial - Proposed" model includes several changes to the default off-road construction equipment unit amounts, load factors, and equipment types (see excerpt below) (Appendix A, pp. 32, 33, 68, 69).

[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.
[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

As a result of these changes, the model includes the following off-road construction equipment list (see excerpt below) (Appendix A, pp. 39, 74).

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Site Preparation	Generator Sets	1	8.00	84	0.74
Building Construction	Pumps	1	8.00	84	0.74
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Grading	Generator Sets	1	8.00	84	0.74
Paving	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Rollers	1	8.00	80	0.38
Paving	Surfacing Equipment	1	8.00	263	0.30

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[7] According to the "User Entered Comments & Non-Default Data" table, the justifications provided for these changes are:

> "Project data" and "Assumed" (Appendix A, pp. 31, 67).

However, these justifications are insufficient, as the IS/MND and associated documents fail to provide or mention the Project's anticipated construction equipment list whatsoever. As previously discussed, according to the CalEEMod User's Guide:

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

[7] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[8] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13-14.

As such, until IS/MND and associated documents provide additional information that substantiates the revised input parameters, we are unable to verify the changes.

These unsubstantiated changes present an issue, as CalEEMod uses the off-road construction equipment input parameters to calculate the emissions associated with off-road construction equipment.[9] By including unsubstantiated changes to the default off-road construction equipment unit amounts, load factors, and equipment type, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Failure to Include Any Amount of Demolition

According to the IS/MND:

> "Site preparation would include internal demolition of the existing former retail building, demolition of the existing parking area around the existing structure, and tree removal" (p. 13).

As demonstrated above, the site preparation phase would involve the demolition of some existing structures and parking areas. However, the IS/MND fails to disclose the specific square footage of area to be demolished, the tons of debris resulting from this demolition, or the number of hauling trips required to remove such debris. Furthermore, review of the "Northgate Industrial - Proposed" model demonstrates that hauling trips were not included in the site preparation phase of the model.

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Site Preparation	5	20.00	0.00	0.00
Grading	5	30.00	0.00	0.00
Building Construction	7	120.00	49.00	0.00
Paving	5	30.00	0.00	0.00
Architectural Coating	1	22.00	0.00	0.00

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

> "Haul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material."[10]

Therefore, CalEEMod calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. As the model does not include any hauling trips for the site

[9] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 33-34.
[10] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 14

preparation phase, the model fails to include any amount of demolition. As such, the model is inconsistent with the information provided in the IS/MND.

This inconsistency presents an issue, as the amount of demolition material inputted into the model is used by CalEEMod to determine emissions associated with this phase of construction. The three primary operations that generate dust emissions during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road.[11] Thus, by failing to substantiate or include the required demolition, the model underestimates the emissions associated with fugitive dust, site removal, and exhaust from hauling trucks traveling to and from the site, and should not be relied upon to determine the significance of the Project's air quality impacts. An EIR should be prepared to substantiate the amount of required demolition and revise the model accordingly.

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: Matt Hagemann CV
Attachment B: Paul Rosenfeld CV

[11] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 11.

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.

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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.

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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.

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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

EXHIBIT B

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Scott Johnson
Community Development Department
City of Sacramento
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811

30 August 2022

RE: Northgate Industrial Park Project

Dear Mr. Johnson,

I write to comment on the Initial Study and Mitigated Negative Declaration (IS/MND) prepared for the proposed Northgate Industrial Park Project, which I understand would add 2 warehouse buildings totaling 265,686 sf of floor space on 17.547 acres at 4100 Northgate Boulevard (City of Sacramento 2022).

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

SITE VISIT

I surveyed the proposed project site 06:24–08:59 hours on 28 August 2022. I used binoculars to scan for wildlife from the roadside periphery, and I listened for calls and looked for sign of animal presence. The sky was clear with no wind. The site was covered by an abandoned retail warehouse and a parking lot with many ill-kept ornamental shrubs and trees, all surrounded by a cyclone fence. The site is just west of Steelhead Creek.

I detected 20 species of vertebrate wildlife at the site (Table 1), 3 of which were special-status species. I saw flocks of birds occupying trees on site (Photos 1 and 2), special-status species such as Nuttall's woodpecker (Photos 3 and 4) and Caspian terns (Photo 5), American crows and mourning doves (Photos 6 and 7), northern mockingbirds and house finches (Photos 8 and 9), Anna's hummingbirds and black phoebes (Photos 10 and 11), and California scrub-jays (Photo 12), among other species.

Table 1. *Species of wildlife I observed during 2.5 hours of survey on 28 August 2022.*

Common name	Species name	Status[1]	Notes
Killdeer	*Charadrius vociferus*		calls
Great egret	*Ardea alba*		flyover
Great blue heron	*Ardea herodias*		flyby
Caspian tern	*Hydroprogne caspia*	TWL	flyover
California gull	*Larus californicus*	BCC, TWL	foraging
Mourning dove	*Zenaida macroura*		fledgling
Rock pigeon	*Columba livia*	Non-native	
White-throated swift	*Aeronautes saxatalis*		foraging
Anna's hummingbird	*Calypte anna*		territory defense
Nuttall's woodpecker	*Picoides nuttallii*	BCC	on site
Black phoebe	*Sayornis nigricans*		nesting pair
Northern mockingbird	*Mimus polyglottos*		fledglings
European starling	*Sturnus vulgaris*	Non-native	
House sparrow	*Passer domesticus*	Non-native	
California scrub-jay	*Aphelocoma californica*		nesting
American crow	*Corvus brachyrhynchos*		
Common raven	*Corvus corax*		
House finch	*Haemorphous mexicanus*		
Lesser goldfinch	*Spinus psaltria*		
House cat	*Felis catus*	Non-native	

[1] Listed as TWL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

Evidence of breeding on and around the site was abundant, including nest structures in trees (Photo 13), juvenile birds (Photos 14 and 15), and social drama typical of breeding territory defense (Photo 16). I saw black phoebes making food deliveries to their nest site. I saw fledglings of mourning doves and northern mockingbirds. I also saw Anna's hummingbirds defending nest territories.

Many American crows flew over the site, and some stopped over on the site. Common ravens foraged on site, as did California gulls, white-throated swifts, house finches, European starlings, and many mourning doves. Great egrets and Caspian terns selected the site for part of their flight paths, and a great blue heron flew right by it.

Photos 1 and 2. *House finches (top) and a California scrub-jay joined by a gang of European starlings (bottom) on the project site, 28 August 2022.*

Photos 3 and 4. *A Nuttall's woodpecker – a US Fish and Wildlife Service Bird Species of Conservation Concern -- on the edge of the project site, 28 August 2022.*

Photo 5. *One of two Caspian terns – on CDFW's Taxa to Watch List -- who selected the project site for part of their flight path, 28 August 2022.*

Photos 6 and 7. *American crow (left) and mourning doves (right) on the project site, 28 August 2022.*

Photos 8 and 9. *Northern mockingbird (left) and house finch (right) on the project site, 28 August 2022.*

Photos 10 and 11. *Anna's hummingbird (left) and black phoebe (right) on the project site, 28 August 2022.*

Photo 12. *One of multiple California scrub-jays on the edge of the project site, 28 August 2022.*

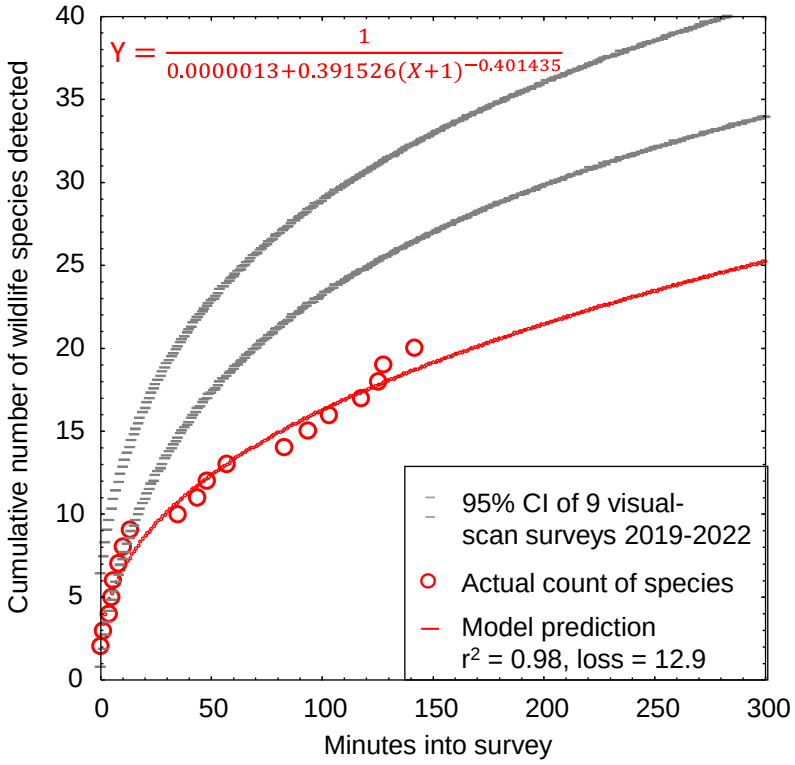
Photos 13 and 14. *One of many bird nests (left) and a juvenile American crow (right) on the project site, 28 August 2022.*

Photos 15 and 16. *Juvenile northern mockingbird (left) and 2 adults engaged in territorial dispute (right) on the project site, 28 August 2022.*

Reconnaissance-level surveys can be useful for confirming presence of species that were detected, but they can also be useful for estimating the number of species that were not detected. One can model the pattern in species detections during a survey as a means to estimate the number of species that used the site but were undetected during the survey. To support such a modeling effort, the observer needs to record the times into the survey when each species was first detected. The cumulative number of species' detections increases with increasing survey time, but eventually with diminishing

returns (Figure 1). In the case of my survey, the pattern in the data (Figure 1) predicts that had I spent more time on site, or had I help from additional biologists, I would have detected 25 species of vertebrate wildlife after 5 person-hours and more species yet after more survey time. The pattern in the data indicates that after the first 20 minutes, the site's richness of wildlife species dropped below the lower bound of the 95% confidence interval estimated from other project sites I have surveyed. The site is not as rich in wildlife species as other sites I have visited, but it is nevertheless amply used by wildlife and it is used by at least 3 special-status species of wildlife (Figure 1).

Figure 1. *Actual (red circles) and predicted (red line) relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on my visual-scan survey on 28 August 2022, and compared to the mean and 95% CI of surveys at 9 sites I performed at many proposed project sites. Note that the relationship would differ if the survey was based on another method or during another season.*



The site supports wildlife, including more species than I could detect during a brief reconnaissance-level survey. However, although this modeling approach is useful for more realistically representing the species richness of the site at the time of a survey, it cannot represent the species richness throughout the year or across multiple years because many species are seasonal or even multi-annual in their movement patterns and in their occupancy of habitat.

By use of an analytical bridge, a modeling effort applied to data collected elsewhere can predict the number of vertebrate wildlife species likely making use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods Noriko and I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential

survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I detected 11.2 species over the first 2.5 hours of surveys in the Altamont Pass (2.5 hours to match the number of hours I surveyed at the project site), which composed 19.6% of the total predicted species I would detect with a much larger survey effort. Given the example illustrated in Figure 2, the 20 species I detected after my 2.5 hours of survey at the project site likely represented 19.6% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, I would likely detect $20/0.196 = 102$ species of vertebrate wildlife at the site. Assuming my ratio of special-status to non-special-status species was to hold with through the detections of all 102 predicted species, then continued surveys would eventually detect 15 special-status species of wildlife.

Again, however, my prediction of 102 species of vertebrate wildlife, including 15 special-status species of wildlife, is derived from a visual-scan survey during the daytime, and would not detect nocturnal mammals. The true number of species composing the wildlife community of the site must be larger. A reconnaissance-level survey should serve only as a starting point toward characterization of a site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site.

Additionally, the likelihood of detecting special-status species is typically lower than that of more common species. This difference can be explained by the fact that special-status species tend to be rarer and thus less detectable than common species. Special-status species also tend to be more cryptic, fossorial, or active during nocturnal periods when reconnaissance surveys are not performed. Another useful relationship from careful recording of species detections and subsequent comparative analysis is the probability of detection of listed species as a function of an increasing number of vertebrate wildlife species detected (Figure 3). (Note that listed species number fewer than special-status species, which are inclusive of listed species. Also note that I include California Fully Protected species and federal Candidate species as "listed" species.)

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019.*

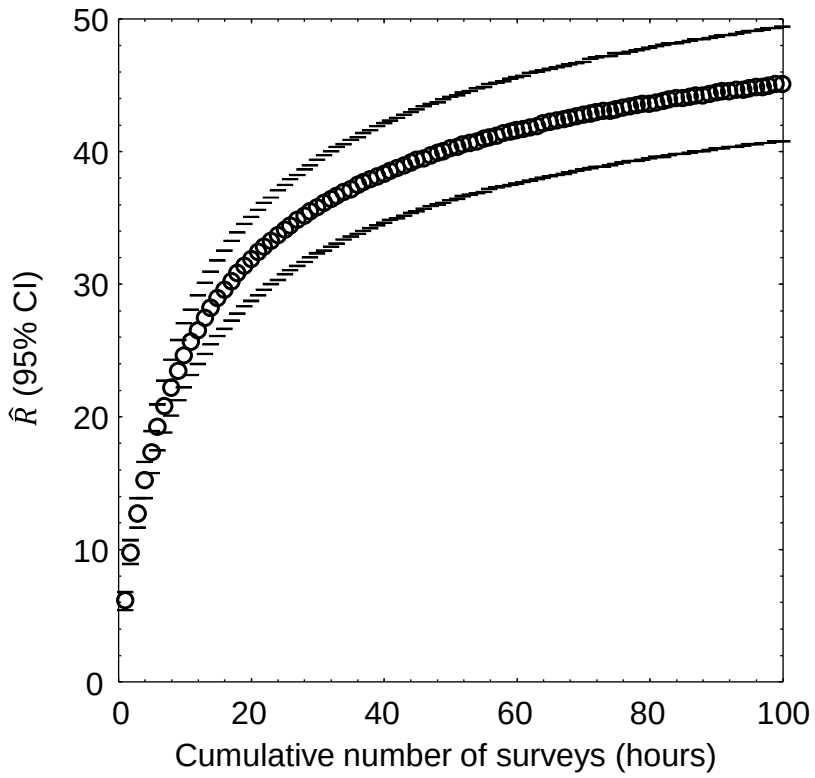
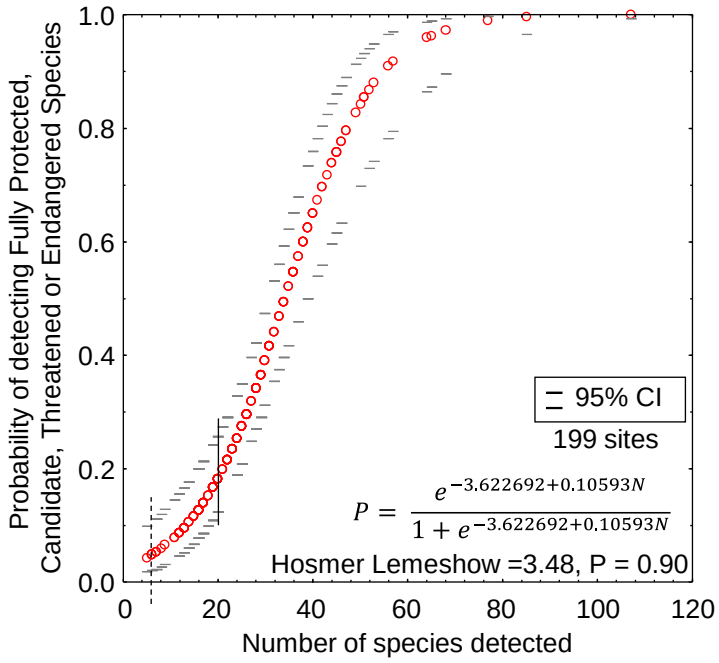


Figure 3. *Probability of detecting ≥1 Candidate, Threatened or Endangered Species of wildlife listed under California or federal Endangered Species Acts, based on survey outcomes logit-regressed on the number of wildlife species I detected during surveys at 199 project sites in California, 1999-2022. The solid vertical line represents the number of species I detected, and the dashed vertical line represents the number of species detected by City of Sacramento (2022).*



As demonstrated in Figures 1 and 2, the number of species detected is largely a function of survey effort. Greater survey effort also increases the likelihood that listed species will be detected (which is the first tenet of detection surveys for special-status species). Based on the outcomes of surveys earlier completed at 199 project sites, my survey effort at the project site carried an 19% chance of detecting a listed species, whereas the survey effort of City of Sacramento (2022) carried a 4% chance. Listed species of vertebrate

wildlife likely use the site, but conclusively documenting their use would take more survey effort to achieve a reasonable likelihood of detection. No reconnaissance-level survey is capable of detecting enough of the wildlife species that occur at a site to realistically characterize the site's wildlife community, including the site's special-status species. A fair argument can be made for the need to prepare an EIR that is better informed by biological resources surveys and by appropriate interpretation of survey outcomes for the purpose of characterizing the wildlife community as part of the current environmental setting.

EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the biological species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. A reasonably accurate characterization of the environmental setting can provide the basis for determining whether the site holds habitat value to wildlife, as well as a baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project's site's regional setting, is one of CEQA's essential analytical steps (§15125). Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of this project, these essential steps remain incomplete and misleading.

Environmental Setting informed by Field Surveys

Ideally, the purpose of a field survey in support of environmental review is to identify which species use a project site, how they use it, and in what numbers. Identifying the presence of certain species – special-status species – is more important than the presence of others. Analysts need this information to identify the environmental baseline, and as a basis for opining on (predicting) potential project impacts to biological resources. In reality, a biological survey to inventory species is costly in time and effort, and its product uncertain. Some species are large or loud, and can be seen during diurnal surveys, whereas others are tiny and quiet and are detectable only by night, by trapping or by remote-sensing technology. Membership on an inventory can also carry different meanings based on how each species occurs at the site. Whereas some species are resident year-round, others can be seasonal or ephemeral in their occurrences at a site. Should a species be included on an inventory depends on the investigator's standard of what counts as presence. Does a single 5-minute occurrence over a decade qualify a species as present? And if such a record was made, who can know whether many other brief occurrences truly occurred without having been documented?

The dilemma is that environmental review really needs species inventory, but biologists are imperfect observers of wildlife at any given site. Obtaining a true species inventory is unlikely, given the brief windows of time and budget that project applicants and their permitting authorities allow for biologists to surveil the site. The wildlife species that

are detected by reconnaissance-level survey represent only a sampling of the species that truly use the site. This is because biologists vary in their skill at detecting wildlife species, and because species of wildlife vary in their detection probabilities during a typical reconnaissance-level survey, ranging from near 0% among rare or nocturnal species to 100% among species that consulting biologists often refer to as "common." In truth, "common" species can number fewer than the "rare" or cryptic species that are more difficult to detect. Rare or cryptic species often require specialized survey methods, begging the question of whether reconnaissance-level surveys can reveal any reliable information to readers of the environmental review.

Reconnaissance-level surveys occasionally reveal the presence of special-status species, sometimes due to the skill of the observer but often due to luck of survey timing. What these surveys cannot reveal is the absences of any species whose geographic ranges overlap the site and whose habitat associations at all resemble conditions of the site. And it is habitat associations that consulting biologists often rely upon to determine likelihoods of occurrence of special-status species. Unfortunately, habitat associations often poorly comport with the habitat concept, which is that habitat is that part of the environment that is used by a species (Hall et al. 1997), and which is described by scientists through measurement (Smallwood 2002). Habitat associations defined by consulting biologists typically lack foundation in actual measurements of habitat use, and are therefore speculative and prone to error. One source of error is to map vegetation complexes as habitat types, to which consulting biologists assign species by association without concern for the unrealistically hard boundaries that divide the mapped habitat types. Another source of error is to pigeon-hole species into unrealistically narrow portions of the environment, which can then be said not to exist on the project site. A third source of error is to assign functions to habitat for the purpose of dividing habitat into unrealistic functional parts, such as between breeding habitat versus foraging habitat. Primacy is assigned to breeding habitat, which often can be said not to exist on the project site. In reality, all parts of an animal's habitat are essential to breeding success, regardless of where breeding opportunities occur.[1]

Given the true cost of species inventory, the temptation to shortcut the analysis of occurrence likelihoods is understandable. In the spirit and intent of CEQA, a reasonably feasible species inventory should be the first objective of reconnaissance-level surveys. But a reasonably feasible inventory is only a sampling of the inventory and not a true inventory. What, then, is the appropriate approach for informing a CEQA review with a reconnaissance-level biological survey? One is to commit to a survey effort that results in the detection of a sufficient number of species to accurately estimate the number of species yet to be detected. Another is to honestly report the uncertainties of the characterizations of the species inventory and of the likelihoods of occurrence of special-status species. The analyst can also assume species are present until suitable evidence is

[1] Animals unable to find sufficient forage, refugia, or travel opportunities are just as unable to reproduce as those unable to find sufficient nest-site opportunities. Per the precautionary principle of risk analysis and consistent with the habitat concept, CEQA review should be based on the broadest of available habitat characterizations, which should be interpreted on the whole rather than contrived functional parts. Any detections of a species on or over a site, regardless of time of year, should be interpreted as that species' use of habitat, any part of which is critical to breeding success.

acquired in support of an absence determination. This last approach would be consistent with the precautionary principle of risk analysis directed toward rare and precious resources (National Research Council 1986).

How did City of Sacramento address the wildlife species inventory and special-status species occurrence likelihoods at the project site?

The IS/MND indicates that a wildlife survey was completed on 6 May 2022. However, the IS/MND reports no additional details of the survey, such as who completed it, what time it started and how long it lasted. These missing methodological details are fundamental to the readers' interpretation of the survey outcome.

Whoever completed the survey, they detected only 30% of the species I saw, and they detected no special-status species. Site conditions are summarized only vaguely, such as "Generally, ornamental landscape trees and shrubs provide limited food and cover for wildlife." Limited food and cover is provided by any and all trees and shrubs, thus the quoted description carries no informative value. The IS/MND is inadequately informed by surveys for wildlife at the project site.

Protocol-level Detection Surveys

The IS/MND describes no detection surveys having been completed for Swainson's hawk (CDFW 2000), other birds, or bats. Nor have detection surveys (CDFW 2012) been completed for burrowing owls along the levee. Without the results of detection surveys, absence determinations lack supporting evidence.

Environmental Setting informed by Desktop Review

The purpose of literature and database review, and of consulting with local experts, is to inform the reconnaissance-level survey, to augment it, and to help determine which protocol-level detection surveys should be implemented. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and site conditions. This step is important because the reconnaissance-level survey is not going to detect all of the species of wildlife that make use of the site. This step can identity those species yet to be detected at the site but which have been documented to occur nearby or whose available habitat associations are consistent with site conditions. Some special-status species can be ruled out of further analysis, but only if compelling evidence is available in support of such determinations (see below).

The IS/MND is inadequately informed by a literature and data base review. The IS/MND inappropriately uses California Natural Diversity Data Base (CNDDB) to determine which species have potential to occur in the project area. By including only species whose documented occurrences within the identified four CNDDB quadrangles, the IS/MND screens out many special-status species from further consideration in its characterization of the wildlife community as a component of the baseline biological

setting. CNDDB was not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." The IS/MND misuses CNDDB.

CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever real properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to CNDDB. Furthermore, CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of CNDDB. Because Bullock's oriole and multiple other species were not assigned special status until 2021, these species would have lacked records in CNDDB when City of Sacramento prepared the analysis. This lack of CNDDB records had nothing to do with true geographic distributions. And because negative findings are not reported to CNDDB, CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on database reviews and our site visits, 97 special-status species of wildlife are known to occur near enough to the site to be analyzed for occurrence potential at one time or another (Table 2). Of these, 4 were confirmed on, over or next to the site by my survey visit, and 47 probably use the site and 14 possibly use the site. Of these 65 species, 19 (29%) have been documented in data bases within 1.5 miles of the site ('Very close'), 18 (28%) within 1.5 and 4 miles ('Nearby'), and another 16 (25%) within 4 to 30 miles ('In region'). The site carries a lot of potential for supporting special-status species of wildlife. On any given day, one or more of these species like make use of the project site, but being there to document that use probably requires multiple surveys (see Figures 1 through 3). On the day City of Sacramento surveyed, none were detected. On the day I surveyed, three were detected. If biologists were to survey on another day, one to several additional special-status species might be detected. The occurrence databases inform us that many special-status species occur near the project site, which means these species likely make use of the project site, and sufficient survey effort should be directed to the site to either confirm these species use the site or to support absence determinations. But a single survey cannot support the absence determination of any of these species.

Of the 15 species that the IS/MND addresses and which appear in my Table 2, 5 have been documented within 1.5 miles of the site, and 4 have been documented within 1.5 and 4 miles of the site. These distances are not great, putting 12 species in close proximity to a site. The IS/MND reports that 5 species have no likelihood of occurrence, but of these I conclude 4 probably occur and 1 possibly occur at the site. Most of the IS/MND's occurrence likelihood determinations do not comport with the close distances of occurrence records nor with my conclusions.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings. 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, "in region" indicates within 4 and 30 miles or so, and 'in range' means the species' geographic range overlaps the site.*

Common name	***Species name***	**Status[1]**	**Occurrence likelihood**		
			IS/NMD	**Data base records, Site visits**	**KSS**
Monarch	*Danaus plexippus*	FC	None (over-winter)	Nearby	Probable
Crotch's bumble bee	*Bombus crotchii*	CCE		In region	Possible
Western spadefoot	*Spea hammondii*	SSC		In region	None
Western pond turtle	*Emys marmorata*	SSC	Low	Nearby	None
Giant gartersnake	*Thamnophis gigas*	FT, CT	Low	In region	None
Brant	*Branta bernicla*	SSC2		In region	None
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL		Nearby	None
Redhead	*Aythya americana*	SSC3		Nearby	None
Barrow's goldeneye	*Bucephala islandica*	SSC		Nearby	None
Western grebe	*Aechmophorus occidentalis*	BCC		Nearby	None
Clark's grebe	*Aechmophorus clarkii*	BCC		Nearby	None
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	Low	In region	None
Black swift	*Cypseloides niger*	SSC, BCC		In region	None
Vaux's swift	*Chaetura vauxi*	SSC2		Very close	Probable
Costa's hummingbird	*Calypte costae*	BCC		Nearby	Probable
Rufous hummingbird	*Selasphorus rufus*	BCC		Very close	Probable
Allen's hummingbird	*Selasphorus sasin*	BCC		Nearby	Probable
Lesser sandhill crane	*Antigone canadensis canadensis*	SSC		In region	None
Greater sandhill crane	*Antigone canadensis tabida*	CE, FP		In region	None
Mountain plover	*Charadrius montanus*	SSC, BCC		In region	None
Snowy plover	*Charadrius nivosus*	BCC		In region	None

Common name	***Species name***	**Status[1]**	**Occurrence likelihood**		
			IS/NMD	**Data base records, Site visits**	**KSS**
Whimbrel	*Numenius phaeopus*	BCC		Very close	Unlikely
Long-billed curlew	*Numenius americanus*	BCC, WL		Very close	Unlikely
Marbled godwit	*Limosa fedoa*	BCC		Nearby	Unlikely
Short-billed dowitcher	*Limnodromus griseus*	BCC		Nearby	None
Willet	*Tringa semipalmata*	BCC		In region	None
Western gull	*Larus occidentalis*	BCC		Nearby	Probable
California gull	*Larus californicus*	WL, BCC		Very close	Certain
Caspian tern	*Hydroprogne caspia*	BCC		Nearby	Certain
Black tern	*Chlidonias niger*	SSC, BCC		Nearby	Unlikely
Common loon	*Gavia immer*	SSC		Nearby	None
Double-crested cormorant	*Phalacrocorax auritus*	WL		On site	Probable
American white pelican	*Pelacanus erythrorhynchos*	SSC1		Very close	None
California brown pelican	*Pelecanus occidentalis californicus*	FP		In region	None
Least bittern	*Ixobrychus exilis*	SSC, BCC		In region	None
White-faced ibis	*Plegadis chihi*	WL		Very close	None
Turkey vulture	*Cathartes aura*	BOP		Very close	Probable
Osprey	*Pandion haliaetus*	WL, BOP		Very close	Probable
White-tailed kite	*Elanus luecurus*	CFP, BOP	Moderate	Very close	Probable
Golden eagle	*Aquila chrysaetos*	BGEPA, BCC, CFP, BOP		Nearby	Unlikely
Northern harrier	*Circus cyaneus*	SSC3, BOP		Very close	Possible
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP		Very close	Probable
Cooper's hawk	*Accipiter cooperii*	WL, BOP	High	Very close	Probable
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, BCC, CFP		Nearby	Possible
Red-shouldered hawk	*Buteo lineatus*	BOP		On site	Probable
Swainson's hawk	*Buteo swainsoni*	CT, BCC, BOP	High	Very close	Probable

Common name	***Species name***	**Status[1]**	**Occurrence likelihood**		
			IS/NMD	**Data base records, Site visits**	**KSS**
Red-tailed hawk	*Buteo jamaicensis*	BOP		Just off site	Probable
Rough-legged hawk	*Buteo regalis*	BOP		Nearby	Probable
Ferruginous hawk	*Buteo regalis*	WL, BOP		Nearby	Probable
Barn owl	*Tyto alba*	BOP		Very close	Probable
Western screech-owl	*Megascops kennicotti*	BOP		Nearby	Probable
Great horned owl	*Bubo virginianus*	BOP		Very close	Probable
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	High	Very close	None
Long-eared owl	*Asio Otis*	BCC, SSC3, BOP		In region	Possible
Short-eared owl	*Asia flammeus*	SSC3, BOP		In region	Possible
Lewis's woodpecker	*Melanerpes lewis*	BCC		Nearby	Possible
Nuttall's woodpecker	*Picoides nuttallii*	BCC		Very close	Certain
American kestrel	*Falco sparverius*	BOP		Very close	Probable
Merlin	*Falco columbarius*	WL, BOP		Very close	Probable
Peregrine falcon	*Falco peregrinus*	BCC, CFP, BOP		Very close	Probable
Prairie falcon	*Falco mexicanus*	BCC, WL, BOP		Very close	Possible
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2		Nearby	Probable
Willow flycatcher	*Empidonax trailii*	CE, BCC		Nearby	Probable
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2		Nearby	Probable
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	None	In region	Probable
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2		Very close	Possible
Yellow-billed magpie	*Pica nuttalli*	BCC		On site	Probable
Oak titmouse	*Baeolophus inornatus*	BCC		Very close	Probable
California horned lark	*Eremophila alpestris actia*	WL		Nearby	Possible
Bank swallow	*Riparia riparia*	CT	None	Nearby	Possible
Purple martin	*Progne subis*	SSC2	Moderate	Nearby	Probable

Common name	***Species name***	**Status[1]**	**Occurrence likelihood**		
			IS/NMD	**Data base records, Site visits**	**KSS**
Wrentit	*Chamaea fasciata*	BCC		Nearby	Possible
California thrasher	*Toxostoma redivivum*	BCC		In region	Possible
Cassin's finch	*Haemorhous cassinii*	BCC		In region	Probable
Lawrence's goldfinch	*Spinus lawrencei*	BCC		Nearby	Probable
Grasshopper sparrow	*Ammodramus savannarum*	SSC2		In region	Unlikely
Brewer's sparrow	*Spizella breweri*	BCC		In region	Unlikely
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2, BCC		In region	Unlikely
Modesto song sparrow	*Melospiza melodia mailliardi*	SSC3	Low	In range	Probable
Yellow-breasted chat	*Icteria virens*	SSC3		In region	Possible
Yellow-headed blackbird	*X. xanthocephalus*	SSC3		Nearby	Probable
Bullock's oriole	*Icterus bullockii*	BCC		Very close	Probable
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC	None	Very close	Probable
Yellow warbler	*Dendroica petechia*	BCC, SSC2		Nearby	Probable
Summer tanager	*Piranga rubra*	SSC1		In region	Probable
Pallid bat	*Antrozous pallidus*	SSC, WBWG H		In region	Possible
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG H		In region	Probable
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H		In region	Probable
Hoary bat	*Lasiurus cinereus*	WBWG M	Moderate	In region	Probable
Western small-footed myotis	*Myotis cililabrum*	WBWG: M		In range	Probable
Yuma myotis	*Myotis yumanensis*	WBWG: LM		In region	Probable
Western mastiff bat	*Eumops perotis*	SSC, WBWG H		In range	Probable
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H		In region	Probable
Big brown bat	*Episticus fuscus*	WBWG:L		In region	Probable
California myotis	*Myotis californicus*	WBWG:L		In range	Probable
Canyon bat	*Parastrellus hesperus*	WBWG:M		In region	Probable
American badger	*Taxidea taxus*	SSC	None	In region	None

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

The environmental baseline needs to be better informed by both on-site surveys and occurrence database review. Absence determinations need to be founded on substantial evidence. Without such evidence, the precautionary principle in risk analysis calls for erring on the side of caution, which in this application means assuming presence of each potentially occurring special-status species. What little I have done to survey the site and to review occurrence databases reveals numerous special-status species at risk of significant impacts caused by the proposed project. A fair argument can be made for the need to prepare an EIR to appropriately characterize existing conditions so that impacts analysis can proceed from a sound footing.

BIOLOGICAL IMPACTS ASSESSMENT

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

HABITAT LOSS

The IS/MND does not address potential impacts of habitat loss to breeding birds. Habitat loss has been recognized as the most likely leading cause of a documented 29% decline in overall bird abundance across North America over the last 48 years (Rosenberg et al. 2019). Habitat loss not only results in the immediate numerical decline of wildlife, but it also results in permanent loss of productive capacity. Two study sites in grassland/wetland/woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982) for an average 34.3 nests per acre. Assuming the project site supports a tenth of the total nesting density of the above-referenced study sites, and applying this adjusted density to the 17.546 acres of the project site would predict a loss of 60 bird nests.

The loss of60 nest sites of birds would qualify as a significant project impact that has not been addressed in the IS/MND. But the impact does not end with the immediate loss of nest sites as the site is graded in preparation for impervious surfaces. The reproductive capacity of the site would be lost. The average number of fledglings per nest in Young's (1948) study was 2.9. Assuming Young's (1948) study site typifies bird productivity, the project would prevent the production of 174 fledglings per year. After 100 years and further assuming an average bird generation time of 5 years, the lost capacity of both breeders and annual fledgling production would total 19,800 birds {(nests/year × chicks/nest × number of years) + (2 adults/nest × nests/year) × (number of years ÷ years/generation)}. The project's denial to California of 198 birds per year has not been analyzed as a potential impact in the IS/MND, nor does the IS/MND provide any compensatory mitigation for this impact. A fair argument can be made for the need to prepare an EIR to appropriately analyze the project's impacts to wildlife caused by habitat loss and habitat fragmentation.

WILDLIFE MOVEMENT

The IS/MND's analysis of whether the project would interfere with wildlife movement in the region is fundamentally flawed. According to the IS/MND (page 35), "The project site does not provide a wildlife corridor or nursery as it is a developed area and surrounded by development." The implied premise is that only disruption of the function of a wildlife corridor can interfere with wildlife movement in the region. This premise, however, represents a false CEQA standard, and is therefore inappropriate to the analysis. The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes an increasingly diminishing area of open space within a growing expanse of anthropogenic uses, forcing more species of volant wildlife to use the site for stopover and staging during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The project would cut wildlife off from stopover and staging opportunities, forcing volant wildlife to travel even farther between remaining stopover sites.

TRAFFIC IMPACTS TO WILDLIFE

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 15-18), including along roads far from the project footprint. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study right next to Vasco Road (Brown et al. 2016). The Brown et al. (2016) adjustment factors were similar to those for carcass persistence of road fatalities (Santos et al. 2011). Applying searcher detection rates estimated from carcass detection trials performed at a wind energy project immediately adjacent to this same stretch of road (Brown et al. 2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by

traffic on the road. This fatality number translates to a rate of 3,900 wild animals per mile per year killed along 2.5 miles of road in 1.25 years. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

Photo 15. *A Gambel's quail dashes across a road* on *3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*

Photo 16. *Great-tailed grackle walks onto a rural road in Imperial County, 4 February 2022.*

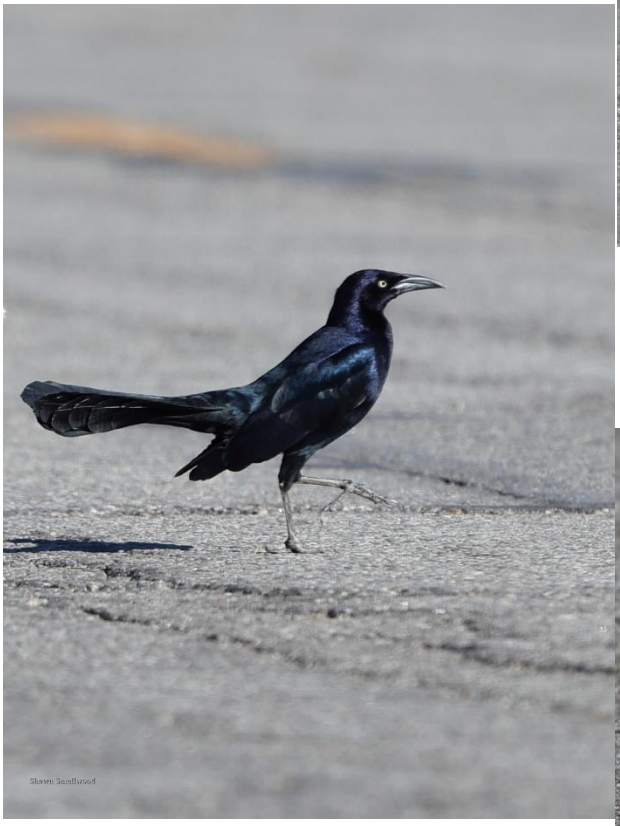


Photo 17. *Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.*

Photo 18. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*

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

<u>Predicting project-generated traffic impacts to wildlife</u>

The IS/MND predicts 2,603,990 annual vehicle miles traveled (VMT). The IS/MND claims this would be a substantial reduction of annual VMT over the current project, but the current project has an annual VMT of near 0. Fry's Electronics closed on 1 June 2020. Existing conditions per CEQA's standard are defined by conditions that exist now, and not two years ago.

During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the IS/MND's prediction of 2,603,990 annual VMT due to the project leads to a prediction

of 1,427 vertebrate wildlife fatalities per year. **Operations over 50 years would accumulate 71,350 wildlife fatalities**. It remains unknown whether and to what degree vehicle tires contribute to carcass removals from the roadway, thereby contributing a negative bias to the fatality estimates I made from the Mendelsohn et al. (2009) fatality counts.

Based on my assumptions and simple calculations, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. There is at least a fair argument that can be made for the need to prepare an EIR to analyze this impact. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project.

CONFLICT WITH LOCAL HCP/NCCP

The IS/MND concludes that "the project site is located within an area considered exempt from compliance with the NBHCP." The nature of the project, however, requires considerable vehicle traffic on roads located well beyond the boundary of the project site. Many of the predicted 2,603,990 annual VMT would be on roads with areas not considered exempt from compliance with the NBHCP. Many of the wild animals that would be killed by this project-generated vehicle traffic would be with areas not considered exempt from compliance with the NBHCP, and many would be animals of species that are the focus of conservation under the NGHCP. An EIR should be prepared to address this potential conflict.

CUMULATIVE IMPACTS

The IS/MND provides a flawed analysis. It provides no analysis of cumulative impacts specific to biological resources. According to the IS/MND (p. 102), "Other projects in the vicinity of the proposed project would also be subject to the City of Sacramento General Plan policies, codes, and regional requirements similar to that applicable to the proposed project." But according to CEQA Guidelines §15064(h)(3), "a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project." And "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The IS/MND provides no explanation of how implementing the particular requirements of the City of Sacramento General Plan would minimize, avoid or offset the project's contributions to cumulative impacts.

Furthermore, the IS/MND claims the project, like other projects that must implement the policies of the City of Sacramento General Plan, would cause no project-level significant impacts specific to any environmental issues addressed by the IS/MND. The

IS/MND implies that cumulative effects are simply residual impacts of incomplete mitigation of project-level impacts. This notion is inconsistent with CEQA's definition of cumulative impacts and how to analyze them. If this was CEQA's standard, then cumulative effects analysis would be merely an analysis of mitigation efficacy. The IS/MND's analysis is based on an assumption that other projects in the area adequately mitigated their impacts to wildlife, thereby leaving no impacts to accumulate. Again, this is not how CEQA defines cumulative impacts and it is inconsistent with the Precautionary Principle in risk analysis directed to rare or precious resources. Even where impacts may be individually limited, their "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines §15064(h)(1)).

MITIGATION MEASURES

The IS/MND proposes only one mitigation measure for biological resources adversely affected by the project.

MM BIO-1 and BIO-3: Pre-Construction Surveys for Nesting Birds and Bat Roosts

Preconstruction surveys should be performed for nesting birds and bat roosts, but not as a substitute for detection surveys. Preconstruction surveys are not designed or intended to reduce project impacts. Preconstruction surveys are only intended as last-minute, one-time salvage and rescue operations targeting readily detectable nests or individuals before they are crushed under heavy construction machinery. Because most special-status species are rare and cryptic, and because most bird species are expert at hiding their nests lest they get predated, most of their nests will not be detected by preconstruction surveys without prior support of detection surveys. Locating all of the nests on site would require more effort than is committed during preconstruction surveys.

Detection surveys are needed to inform preconstruction take-avoidance surveys by mapping out where biologists performing preconstruction surveys are most likely to find animals or their breeding sites. Detection surveys are needed to assess impacts and to inform the formulation of appropriate mitigation measures, because preconstruction surveys are not intended for these roles either.

Following detection surveys, preconstruction surveys should be performed. However, an EIR should be prepared, and it should detail how the results of preconstruction surveys would be reported. Without reporting the results, preconstruction surveys are vulnerable to serving as an empty gesture rather than a mitigation measure. For these reasons, and because the salvage of readily detectable animals or their nests would not prevent the permanent loss of habitat, the proposed mitigation measure is not sufficient to reduce the project's impacts to nesting birds to less than significant levels.

It should also be understood that preconstruction surveys would not offset the permanent loss of habitat caused by the project. Compensatory mitigation would be warranted for take of Swainson's hawk nest sites, the nest sites of other birds, and bat roosts.

MM BIO-2: Avoid and Minimize Impacts to Burrowing Owl

Performing preconstruction take-avoidance surveys only days before heavy equipment set forth on construction would be inconsistent with the survey standards of CDFW (2012). Prior to preconstruction surveys, breeding-season detection surveys must be completed.

It should also be understood that preconstruction surveys would not offset the permanent loss of habitat caused by the project. Compensatory mitigation would be warranted for take of burrowing owls.

Regarding passive relocation of burrowing owls, as proposed in the IS/MND, CDFW (2012) does not regard passive relocation as a valid mitigation measure, and in fact might conclude that it would be another source of impacts to burrowing owls.

RECOMMENDED MEASURES

The IS/MND proposes only preconstruction surveys, but no compensatory mitigation for habitat loss or losses to project-generated traffic. A fair argument can be made for the need to prepare an EIR to formulate appropriate measures to mitigate project impacts to wildlife. Below are few suggestions of measures that ought to be considered in an EIR.

Detection Surveys: If the project goes forward, species detection surveys are needed to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory mitigation and other forms of mitigation. Detection survey protocols and guidelines are available from resource agencies for most special-status species. Otherwise, professional standards can be learned from the scientific literature and species' experts. Survey protocols that need to be implemented include CDFW (2000) for Swainson's hawks and CDFW (2012) for burrowing owls. The guidelines call for multiple surveys throughout the breeding season.

Detection Surveys for Bats: Multiple special-status species of bats likely occur on and around the project site. A qualified bat biologist should be tasked with completing protocol-level detection surveys for bats. It needs to be learned whether bats roost in the building and on the many trees on site. Whether bats forage on site also needs to be learned.

Preconstruction surveys: Reports of the methods and outcomes of preconstruction surveys should be required. The reports should be made available to the public.

Construction Monitoring: If the project goes forward, two or more qualified biologists need to serve as construction monitors. They should have the authority to stop construction when construction poses a threat to wildlife, and they should have the authority to rectify situations that pose threats to wildlife. The events associated with construction monitoring, such as efforts to avoid impacts and findings of dead and injured wildlife, need to be summarized in a report that is subsequently made available to the public.

Habitat Loss: If the project goes forward, compensatory mitigation would be warranted for habitat loss. An equal area of land should be protected in perpetuity as close to the project site as possible. Additional compensatory mitigation should be linked to impacts identified in construction monitoring.

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

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

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

Thank you for your attention,

Shawn Smallwood, Ph.D.

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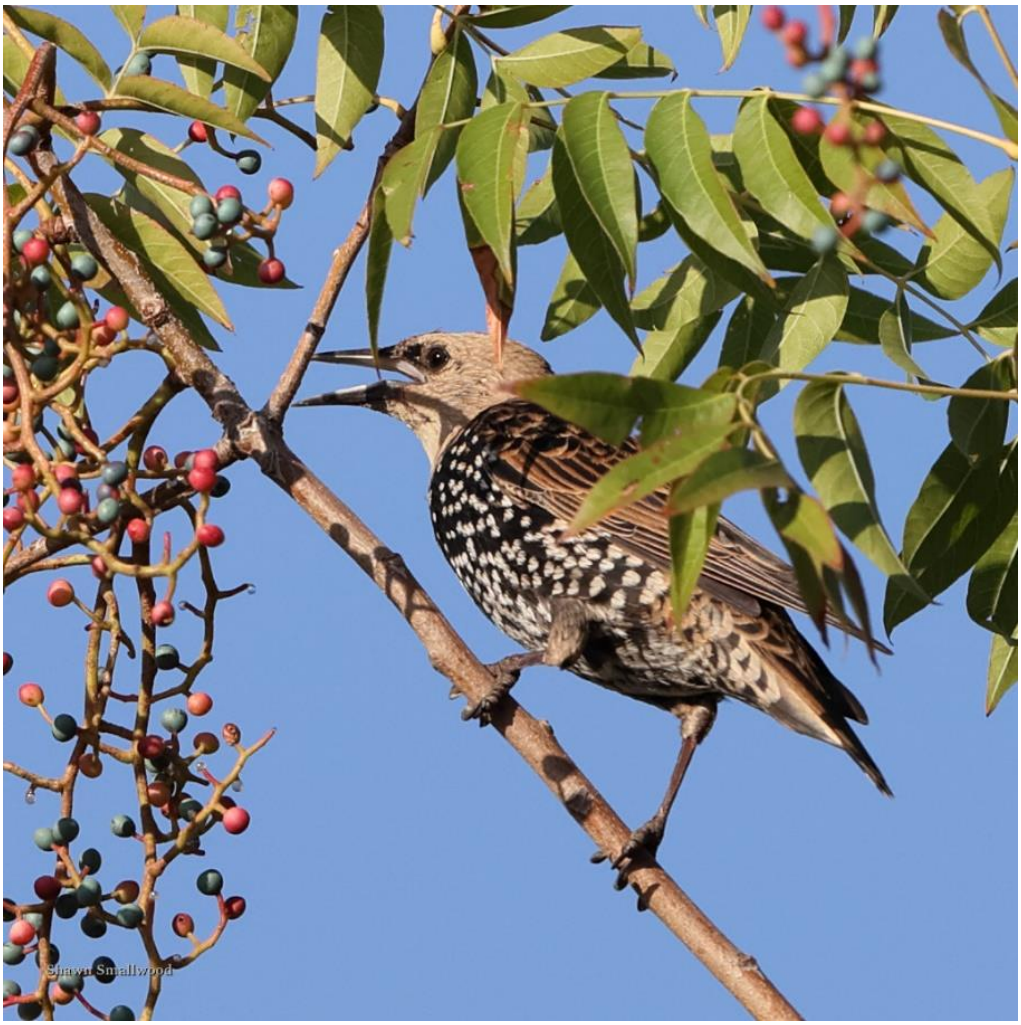

With many European starlings on site, Cooper's hawks and sharp-shinned hawks – both special-status species – must visit to hunt for them.

LETTER 2

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September 15, 2022

VIA EMAIL

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SRJohnson@cityofsacramento.org

SUBJECT: COMMENTS ON NORTHGATE INDUSTRIAL PARK MND (SCH NO. 2022080348)

Dear Mr. Johnson,

Thank you for the opportunity to comment on the Mitigated Negative Declaration (MND) for the proposed Northgate Industrial Park. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance. Also, Golden State Environmental Justice Alliance 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.

1.0 Summary

The project proposes to repurpose an existing approximately 156,013-square-foot former Fry's Electronics retail store building for use as an industrial warehouse building (Building A) and develop an additional approximately 109,673-square-foot industrial warehouse building (Building B) to the west of the existing structure in the parking area of the former retail site. The project would therefore develop approximately 265,686 square feet of industrial warehouse use.

Building A proposes a 156,013-square-foot single-story industrial warehouse building with a height of approximately 34 feet. The Building A parcel has a total site area of approximately 491,413 square feet (11.28 acres). Building A proposes 18 truck/trailer loading bays and 5 grade-level roll up doors for truck/trailers. Building B proposes a 109,673-square-foot single-story

industrial warehouse building with a height of approximately 42 feet. The Building B parcel has a total site area of approximately 273,530 square feet (6.28 acres). Building B proposes 20 truck/trailer loading bays and 8 grade-level roll up doors for truck/trailers.

Discretionary actions required to approve the proposed project include:

1. PUD Schematic Plan Amendment to designate the site for light industrial uses consistent with the M-1(S) zone.
2. PUD Guidelines Amendment to allow for light industrial uses, renaming the Incredible Universe PUD to Northgate Industrial Park PUD, allow for additional signage, and provide updates to make language consistent with current planning practices.
3. Tentative Parcel Map for two parcels measuring 11.285 acres and 6.262 acres.
4. Site Plan and Design Review for the construction of 2 industrial warehouse buildings.

The project site is designated Employment Center Low Rise by the 2035 General Plan. The project site is zoned M-1(S) PUD (Light Industrial Zone - Planned Unit Development).The project is located within the Incredible Universe PUD area.

2.0 Project Description

The MND states that the Community Development Department "has reviewed the proposed project and, on the basis of the whole record before it, has determined that the proposed project is an anticipated subsequent project identified and described in the 2035 General Plan Master EIR." However, Section 2.7.7 Use of this MEIR and Subsequent Projects within the 2035 General Plan Master EIR[1] states that "the City has compiled a list of specific projects that may be undertaken as subsequent projects during the period covered by the 2035 General Plan, in accordance with CEQA Guidelines Section 15177 (Table 2-2). Subsequent projects may include public works and infrastructure projects." It further states that "Other activities of the City are also covered by the MEIR analysis of cumulative effects that could result from implementation of the 2035 General Plan. These include the City's business-as-usual activities that involve maintenance, repair and alterations and replacement of existing structures, facilities and equipment." Table 2-2: City Of Sacramento 2035 General Plan Subsequent Projects within the 2035 Master EIR only lists capital projects to be undertaken by the City, such as Library improvements, updating the Parks and Recreation Master Plan, road repairs, and constructing a new downtown Police Department facility. O-BCH-1

[1] Sacramento 2035 General Plan Master EIR http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Environmental-Impact-Reports/2035-GP-Update/Public-Draft-MEIR081114.pdf?la=en

It is clear that the proposed project is not an anticipated subsequent project identified and described in the 2035 General Plan Master EIR. The MND is erroneous and misleading to the public and decision makers by utilizing this assertion. The MND has not prepared the appropriate level of environmental analysis required by CEQA. A Project EIR must be prepared in accordance with CEQA Section 15161 and 15120 - 15132.

Cont. O-BCH-1

Further, using the Master EIR pursuant to CEQA Guidelines Section 15177 is not the appropriate method of environmental analysis for multiple other reasons found in the CEQA statute. CEQA Guidelines Section 15179(a) states the following:

(a) The certified Master EIR shall not be used for a subsequent project described in the Master EIR in accordance with this article if either:

(1) The Master EIR was certified more than five years prior to the filing of an application for a subsequent project except as set forth in subsection (b) below, or

(2) After the certification of the Master EIR, a project not described in the certified Master EIR as an anticipated subsequent project is approved and the approved project may affect the adequacy of the Master EIR for any subsequent project that was described in the Master EIR.

The 2035 General Plan Master EIR was certified on March 3, 2015[2]. This date is seven years prior to the filing of the application for the proposed project on April 11, 2022[3]. Further, if the proposed project is approved, it will affect the adequacy of the Master EIR for any subsequent project that was described in the Master EIR because the proposed project was not described in the Master EIR. If the lead agency utilizes the Master EIR pursuant to CEQA Guidelines Section 15177 to analyze the proposed project, it will not be able to use the Master EIR "for a subsequent project described in the Master EIR" because the approved non-subsequent project affected the adequacy of the Master EIR.

O-BCH-2

Additionally, CEQA Guidelines Section 15179(b) states that "a Master EIR certified more than five years prior to the filing of an application for a subsequent project described in the Master EIR may be used in accordance with this article review such a subsequent project if the lead agency" takes certain described actions. The statute requires that the project must be a subsequent project described in the Master EIR in order to be utilized more than five years after Master EIR certification. The Northgate Industrial project was not listed or described in Table 2-2: City Of Sacramento 2035 General Plan Subsequent Projects within the 2035 Master EIR. The use of CEQA Guidelines Section 15178(b),(c) by the MND is not the appropriate level of environmental

[2] Sacramento City Council Resolution No. 2015-0060 http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Environmental-Impact-Reports/2035-GP-Update/Resolution-2015-0060.pdf?la=en

[3] Sacramento Citizen Permit Portal, Project Application P22-017 files uploaded April 11, 2022 https://aca-prod.accela.com/SACRAMENTO/Cap/CapDetail.aspx?Module=Planning&capID1=22CPF&capID2=00000&capID3=00017&agencyCode=SACRAMENTO

analysis because the proposed project does not qualify as a subsequent project described in the Master EIR. A Project EIR must be prepared in accordance with CEQA Section 15161 and 15120 - 15132.

Cont. O-BCH-2

The MND does not include floor plans, elevations, detailed site plans, or a grading plan for either building. The basic components of a Planning Application include a detailed site plan, floor plan, conceptual grading plan, written narrative, and detailed elevations. Additionally, the site plan provided in Figure 6 has been edited to remove pertinent information from public view. For example, it does not provide any detailed information such as the floor area ratio, earthwork quantity notes, parking requirements, or maximum building height. Providing the grading plan and earthwork quantity notes is vital as the MND does not give any information regarding any necessary truck hauling trips due to soil import/export during the grading phase of construction. An EIR must be prepared to include wholly accurate and adequate detailed project site plans, floor plans, grading plan, elevations, and project narrative for public review in order to comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)).

O-BCH-3

Further, the MND does not include the proposed revisions to the Incredible Universe PUD as an attachment for public review. Providing the revised portions of the Incredible Universe PUD is vital as it contributes directly to the analysis of environmental impacts. An EIR must be prepared to include the proposed revisions to the Incredible Universe PUD document for public review in order to comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)). Notably, the MND states that the PUD Amendment proposes to **"**allow for light industrial uses," "allow for additional signage, and provide updates to make language consistent with current planning practices. Approval of this amendment would bring the proposed project into consistency with zoning code and the PUD." The MND relies upon approval of the PUD Amendment itself to ensure the project is consistent with the Zoning Code. Further, review of the project application items submitted via the City's Online Portal[4] indicate that changes to the PUD also involve allowing any use "permitted within the base zone," which is not discussed in the MND. Further, the PUD Amendment proposes to exclude temporary residential shelters as an allowed use within the PUD, which does not comply with State laws requiring adequate processes for low barrier navigation centers and the City's Emergency Shelter Ordinance[5] that permits these facilities within the M-1(S) Zone. Providing this

O-BCH-4

[4] Sacramento Citizen Permit Portal, Project Application P22-017 files uploaded April 11, 2022 https://aca-prod.accela.com/SACRAMENTO/Cap/CapDetail.aspx?Module=Planning&capID1=22CPF&capID2=00000&capID3=00017&agencyCode=SACRAMENTO

[5] Sacramento Temporary Shelters https://www.cityofsacramento.org/Community-Development/Planning/Temporary-Shelter-Facilities

information as part of a Project EIR is vital in order to describe the whole of the action and provide an adequate/accurate environmental analysis. O-BCH-4 Cont.

Environmental Setting

The MND describes a baseline environmental setting within the Project Description in stating that the project will "repurpose the existing approximately 156,013-square-foot former Fry's Electronics retail store building for use as an industrial warehouse building." Further, several other environmental setting descriptions within the sections of environmental analysis describe the project site as vacant, such as:

1. Hazards: "The 17.55-acre site is currently vacant."
2. Aesthetics: "Given that the project site is currently vacant,…"
3. Cultural Resources: "The project site consists of approximately 16 acres of paved and landscaped surfaces surrounding the now vacant Fry's Electronics building,…"
4. Transportation: The Electronic Superstore land use was utilized for the currently vacant Fry's Electronics building."
5. Appendix D: VMT Analysis dated May 9, 2022: "The Project proposes repurposing a currently vacant 156,013 square-foot Fry's Electronics building into an industrial warehouse and constructing an additional 109,673 square-foot industrial warehouse."

Notably, the Fry's Electronics building was permanently closed and removed all outdoor signage on the building by December 23, 2020[6]. This is approximately 16 months prior the submittal of the application for the proposed project on April 11, 2022[7]. Even though the Project Description and environmental setting for several portions of analysis describe the project site as vacant, analysis throughout the MND credits the proposed project with credits to reduce factors such as GHG emissions, energy consumption, and VMT, for operation of the Fry's Electronics store at full capacity. Applying reduction credits when the former use ceased operations nearly 1.5 years prior is inappropriate and only serves to skew emissions from the proposed project below the applicable thresholds. CEQA Guidelines Section 15063(d) requires that the Initial Study provide "an identification of the environmental setting." Here, the MND has stated in the Project Description and several areas throughout the MND that the environmental setting is a vacant project site. A Project EIR must be prepared to remove reduction credits from a fully functioning Fry's Electronics Store because the environmental setting is very clearly a vacant project site, as stated in the MND. This is vital in order to prepare an adequate and accurate informational document with proper environmental analysis for the public and decision makers to review. O-BCH-5

[6] Natomas Fry's Permanalty Closed, Natomas Buzz dated December 23, 2020 https://www.natomasbuzz.com/2020/12/frys-closure-in-natomas-appears-permanent/

[7] Sacramento Citizen Permit Portal, Project Application P22-017 files uploaded April 11, 2022 https://aca-prod.accela.com/SACRAMENTO/Cap/CapDetail.aspx?Module=Planning&capID1=22CPF&capID2=00000&capID3=00017&agencyCode=SACRAMENTO

III Environmental Checklist and Discussion

A) Land Use and Planning

The MND does not include a consistency analysis with the City's General Plan. An EIR must be prepared which includes an analysis of the project in conjunction with all General Plan goals and policies, including the following:

1. Policy LU 1.1.1 Regional Leadership. The City shall be the regional leader in sustainable development and encourage compact, higher-density development that conserves land resources, protects habitat, supports transit, reduces vehicle trips, improves air quality, conserves energy and water, and diversifies Sacramento's housing stock.
2. Policy LU 1.1.2 Building Intensity and Population Density. The City shall regulate the levels of building intensity and population density according to the standards and land use designations set out in the General Plan and the Sacramento City Code. Within these designations, cumulative development shall not exceed 640,400 persons and 390,100 employees by 2035.
3. Goal LU 1.2 Sustainable Sacramento Strategy. Support statewide and regional efforts to reduce greenhouse gas emissions, fund transportation improvements, and meet housing needs.
4. Goal LU 2.6 City Sustained and Renewed. Promote sustainable development and land use practices in both new development, reuse, and reinvestment that provide for the transformation of Sacramento into a sustainable urban city while preserving choices (e.g., where to live, work, and recreate) for future generations.
5. Policy LU 2.6.1 Sustainable Development Patterns. The City shall promote compact development patterns, mixed use, and higher-development intensities that use land efficiently; reduce pollution and automobile dependence and the expenditure of energy and other resources; and facilitate walking, bicycling, and transit use.
6. Policy LU 2.6.7 Green Building Retrofit. The City shall promote the retrofitting of existing structures with green building technologies/practices and encourage structures being renovated to be built to a higher green building standard such as CalGreen Tier 1 or Tier 2 or Leadership in Energy and Environmental Design (LEED). (RDR) LU 2.6.8 Heat Island Effect ☐. The City shall reduce the "heat island effect" by promoting and requiring, where appropriate, such features as reflective roofing, green roofs, light-colored pavement, and urban shade trees and by reducing the unshaded extent of parking lots.
7. Policy LU 2.7.5 Development along Freeways. The City shall promote high-quality development character of buildings along freeway corridors and protect the public from the adverse effects of vehicle-generated air emissions, noise, and vibration, using such techniques as: 1) Requiring extensive landscaping and trees along the freeway fronting elevation, 2) Establish a consistent building line, articulating and modulating building elevations and

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heights to create visual interest, 3) Include design elements that reduce noise and provide for proper filtering, ventilation, and exhaust of vehicle air emissions.

8. Policy LU 2.7.6 Walkable Blocks. The City shall require new development and reuse and reinvestment projects to create walkable, pedestrian-scaled blocks, publicly accessible mid-block and alley pedestrian routes where appropriate, and sidewalks appropriately scaled for the anticipated pedestrian use.
9. Policy LU 2.7.7 Buildings that Engage the Street. The City shall require buildings to be oriented to and actively engage and complete the public realm through such features as building orientation, build-to and setback lines, façade articulation, ground-floor transparency, and location of parking.
10. Policy LU 2.7.8 Screening of Off-street Parking. The City shall reduce the visual prominence of parking within the public realm by requiring most off-street parking to be located behind or within structures or otherwise fully or partially screened from public view.
11. Policy LU 2.8.3 High-Impact Uses. The City shall avoid the concentration of high-impact uses and facilities in a manner that disproportionately affects a particular neighborhood, center, or corridor to ensure that such uses do not result in an inequitable environmental burden being placed on low-income or minority neighborhoods.
12. Policy ED 1.1.6 Environmentally Sustainable, Green Technology, and Clean Technology Businesses. The City shall attract and retain environmentally conscious businesses that contribute to the long-term, economic and environmental sustainability of Sacramento.
13. Policy M1.2.3 Transportation Evaluation. The City shall evaluate discretionary projects for potential impacts to traffic operations, traffic safety, transit service, bicycle facilities, and pedestrian facilities, consistent with the City's Traffic Study Guidelines.
14. Policy M 1.2.2 Level of Service (LOS) Standard. The City shall implement a flexible context-sensitive Level of Service (LOS) standard, and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure Vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions, including AM and PM peak hour.
15. Goal ER 6.1 Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that contribute to climate change.
16. Policy ER 6.1.2 New Development. The City shall review proposed development projects to ensure projects incorporate feasible measures that reduce construction and operational

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emissions for reactive organic gases, nitrogen oxides, and particulate matter (PM10 and PM2.5) through project design.

17. Policy ER 6.1.5 Community Greenhouse Gas Reductions. The City shall reduce community GHG emissions by 15 percent below 2005 baseline levels by 2020, and strive to reduce community emissions by 49% percent and 83% percent by 2035 and 2050, respectively.
18. Policy ER 6.1.7 Greenhouse Gas Reduction in New Development. The City shall reduce greenhouse gas emissions from new development by discouraging auto-dependent sprawl and dependence on the private automobile; promoting water conservation and recycling; promoting development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; improving the jobs/housing ratio in each community; and other methods of reducing emissions.

The MND does not include a consistency analysis with the North Natomas Community Plan. An EIR must be prepared which includes an analysis of the project in conjunction with all North Natomas Community Plan goals and policies, including the following:

1. NN.LU 1.3 Employment Center Development Guidelines. The City shall require any development in an Employment Center area to comply with the North Natomas Development Guidelines.
2. NN.LU 1.16 Employment Center Heights. The City shall ensure that buildings are varied to create an interesting skyline.
3. NN.LU 1.18 Support Retail Required in Each Employment Center. The City shall require every Employment Center to provide some level of support retail goods and services, either ancillary (within a primary use building) or support (within a stand alone building). An Employment Center that is 2 acres or less in size and is located adjacent to a PUD with support retail is exempt from the retail requirement
4. NN.LU1.39 Industrial Development. The City shall provide for comprehensive industrial development that significantly contributes to the city's employment base while not competing with the types of industrial uses that would likely locate in North Sacramento
5. NN.LU 1.42 Employment Center Light Industrial. The City shall allow a maximum of 20 percent of any employment center to be devoted to light industrial uses such as distribution and warehousing, light manufacturing and assembly, and high tech manufacturing, research, and development with limited office space.
6. NN.LU 1.5 Distinguished Gateways. Heavier landscape treatment and high quality design must be included in specific gateways to the community to provide a suitable entry to the Capitol City. The freeway gateways include: (4) I-80 and Northgate Boulevard.

O-BCH-6 Cont.

B) Population and Housing

The MND does not provide any calculation of the project's construction or operational employees. The U.S. Energy Information Administration[8] provides the following applicable employment generation rate for warehouses:

No Refrigeration: 1 employee per 1,224 square feet

Applying this ratio results in the following calculation:
Non-Refrigerated: 265,686 sf/ 1,224 = 210
Total: 210 employees

Sacramento Council of Governments (SACOG) adopted the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) on November 18, 2019[9]. The 2020 MTP/SCS notes that the Established Communities in the SACOG region will add 146,053 jobs between 2016 - 2040 (Figure 3.5 Community Types and Table 3.2 Summary of Expected Housing and Employment Growth by Community Type). Utilizing the U.S. EIA calculation of 210 employees, the project represents 0.14% of the employment growth from 2016 - 2040 within all of SACOG's Established Communities. A single project accounting for this amount of the projected employment and/or population over 26 years represents a significant amount of growth. A Project EIR must be prepared to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" within Established Communities in the SACOG region to determine if the project will exceed SACOG's employment growth forecast for the Established Communities. Additionally, the Project 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.

O-BCH-6 Cont.

III.2 Air Quality, III.5 Energy, and III.7 Greenhouse Gas Emissions

The MND 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[10], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability, the proposed project's census tract (6067007001) ranks worse than 83% of the rest of the state overall. The surrounding community, including residences and Glenwood Elementary School to the east, and residences and Garden Valley Elementary School to the south, bears the impact of multiple sources of pollution and is more polluted than

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[8] US EIA Commercial Buildings Energy Consumption Survey, Table B1: Summary table: total and means of floorspace, number of workers, and hours of operation, 2018 https://www.eia.gov/consumption/commercial/data/2018/bc/html/b1.php
[9] SACOG 2020 MTP/SCS https://www.sacog.org/sites/main/files/file-attachments/2020_mtp-scs.pdf?1580330993
[10] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

average on several pollution indicators measured by CalEnviroScreen. For example, the project census tract ranks in the 51st percentile for ozone burden and the 73rd percentile for traffic impacts, which are both typically attributed to heavy truck activity in the area. Traffic impacts represent the vehicles in a specified area, resulting in human exposures to chemicals that are released into the air by vehicle exhaust, as well as other effects related to large concentrations of motor vehicles[11].

Further, the census tract is a diverse community including 55% Hispanic, 8% African-American and 11% Asian-American residents, which are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 75% 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. Medical care is vital for this census tract as it ranks in the 86th percentile for incidence of asthma and 91st percentile for incidence of cardiovascular disease.

Additionally, the project's census tract (6067007001) is identified as a SB 535 Disadvantaged Community[12], which is not discussed or presented for analysis in the MND. Census tracts adjacent to the project site (6067006701 (east); 6067006702 (east); 6067006800 (east); 6067006900 (southeast); and 6067007007 (west)) are also identified as SB 535 Disadvantaged Communities. This indicates that cumulative impacts of development and environmental impacts in the region are disproportionately impacting these communities.

O-BCH-7 Cont.

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[13]. CalEEMod is not listed as an approved software. The CalEEMod-based modeling in Appendix A 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 MND did not accurately or adequately model the energy impacts in compliance with Title 24, a finding of significance must be made. An 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 MND utilizes CalEEMod as a source in its methodology and analysis, which is clearly not the approved software.
Further, the MND states that "Because the California Emissions Estimator Model (CalEEMod) program used for that analysis does not specifically quantify diesel and gasoline fuel volumes used

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[11] OEHHA CalEnviroScreen Report https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf
[12] OEHHA SB 535 Census Tracts https://oehha.ca.gov/calenviroscreen/sb535
[13] 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

for construction and operational sources, additional calculations were completed to calculate diesel and gasoline volumes based on estimated carbon dioxide (CO2) emissions and default factors from The Climate Registry for calculating CO2 emissions from combustion of transport fuels." However, these additional calculations were not included in the body of the MND or as an attachment for 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 calculations contribute directly to analysis of the problem at hand. An EIR must be prepared to include the additional Energy calculations for review, analysis, and comment by the public and decision makers in order to comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)).

As noted in the Environmental Setting analysis above, the baseline environmental setting/existing conditions at the project site established in the MND are a completely vacant building and property. However, analysis throughout the MND credits the proposed project with emissions and energy consumption credits for operation of the site at full capacity. The arguments and analysis in the Environmental Setting review above are herein reincorporated. The CalEEMod analysis (used for Air Quality, Energy, and GHG modeling) credits the proposed project with 156,013 square feet of Electronics Superstore, but the MND does not provide any meaningful information to support that 156,013 square feet of Electronics Superstore existed and was operational on May 24, 2022 when the modeling was prepared. The environmental setting of the project site described throughout the MND states that the site is vacant. This further demonstrates that it is not appropriate to provide reduction credits to the proposed project. The credits given for the "existing use" only serves to skew environmental impacts downward in an effort to reduce impacts. The emission and energy consumption credits given are based on a fully operational Fry's Electronics store that was permanently closed nearly 1.5 years prior to the date of applicational submittal for the proposed project. Notably, the proposed project will exceed SMAQMD's significance threshold of 1,100 MTCO2e (GHG emissions) annually prior to the reduction credits applied from the former Fry's Electronics store. A Project EIR must be prepared to remove reduction credits from operations of the former Fry's building, in order to be an adequate an accurate informational document.

O-BCH-8 Cont.

III.13 Transportation

The MND has not adequately analyzed the project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access. Figure 6: Proposed Site Plan depicts in multiple onsite areas that there is not adequate space to accommodate heavy truck maneuvering. The available onsite turning radius does not provide sufficient space to execute turning maneuvers. As shown on Figure 6, the white lines (outlines of the truck body and its

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maneuvering areas) overlap in several areas. The overlapping lines mean that if two trucks were to maneuver at the same time, they would collide because there is not adequate maneuvering space. For example, a truck attempting to exit the site from the south side of Building A is shown to collide with a truck maneuvering to a dock at Building B. Trucks maneuvering to utilize the dock doors on the east side of Building B are shown to collide at all eight of the modeled areas. O-BCH-9

Additionally, the MND has not provided any analysis of the project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) at the project driveways. Only one driveway is proposed to serve all trucks/trailers and passenger cars entering and existing the project site. The MND has not included a turning radius exhibit to demonstrate that the project driveway intersection or Northgate Blvd. is adequate to accommodate truck/trailer turning maneuvers. A finding of significance must be made as part of a Project EIR due to both of these described issues. O-BCH-10

Table 16: Project Trip Generation provides trip generation reduction credits for the former Fry's Electronics building the VMT analysis also provides credits for existing uses. It is not appropriate to model the previous uses at full operational capacity and provide trip generation reduction credits based on existing uses. As noted above in the Environmental Setting analysis, the baseline environmental setting/existing conditions at the project site established in the MND are a completely vacant building and property. However, analysis throughout the MND credits the proposed project with emissions and energy consumption credits for operation of the site at full capacity. The arguments and analysis in the Environmental Setting review above are herein reincorporated. Appendix D: VMT Analysis credits the proposed project based on modeling the former Fry's Electronics as ITE Land Use Code 863 even though the same document dated describes the building as "currently vacant." If the MND wishes to credit the proposed project with trips from the existing building, it should have conducted traffic counts at the project site. Those traffic counts would demonstrate that 0 cars and/or trucks visit the site, and 0 reduction credits would be applied based on the environmental setting. Utilizing ITE standard modeling to model a vacant site as fully operational serves to artificially reduce the project's significant environmental impacts. The existing conditions of the site generates 0 VMT and 0 vehicle trips. The project VMT analysis and project trip generation must be revised to remove any credit given for the existing building in order to accurately and adequately analyze the project's significant VMT impacts in accordance with CEQA Section 15064.3 and the City's General Plan LOS requirements. O-BCH-11

Additionally, a Project EIR must be prepared to include all truck/trailer activity for quantified VMT analysis. The operational nature of industrial/warehouse uses involves high rates of truck/trailer VMT due to traveling from large regional distribution centers to smaller industrial parks and then to their final delivery destinations. The project's truck/trailer activity is unable to

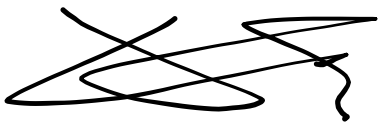
utilize public transit or active transportation and it is misleading to the public and decision makers to exclude this activity from VMT analysis. A Project EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer activity to adequately and accurately analyze the potentially significant project transportation impacts.

O-BCH-11 Cont.

Conclusion

For the foregoing reasons, GSEJA believes the MND is flawed and an 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

LETTER 3

California Department of Transportation

California Department of Transportation

DISTRICT 3
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September 9, 2022

GTS# 03-SAC-2022-01172

Scott Johnson, Senior Planner
City of Sacramento
Community Development Department
Environmental Planning Services
300 Richards Blvd. 3rd Floor
Sacramento, CA 95811

Northgate Industrial Park Project (P22-017)

Dear Mr. Johnson:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. We reviewed this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision, and goals, some of which include addressing equity, climate change, and safety, as outlined in our statewide plans such as the California Transportation Plan 2050, Caltrans Strategic Plan, and Climate Action Plan for Transportation Infrastructure.

The project is located on Northgate Boulevard in the City of Sacramento, California. The project site is bounded on the east by Steelhead Creek (also known as the Natomas East Main Drainage Canal), Interstate 80 (I-80) immediately to the south, and Northgate Boulevard to the west and northwest. The proposed project would include construction of 2 industrial warehouse buildings the construction of 2 industrial warehouse buildings. Building A, measuring 156,013 square feet, is existing and will be converted from a warehouse retail store to an industrial warehouse building. Building B, measuring 109,673 square feet, is proposed to be constructed at the existing parking lot of the subject site. Based on our review of the application package, Caltrans has the following comments:

Freeway Operations/Traffic Safety

Caltrans requests a Transportation Impact Study for the project. The study should include trip generation calculations comparing current conditions with the plus project conditions.

Transportation Planning - Forecasting & Modeling

A VMT analysis must be included in the Traffic Impact Study. If this project is found to have Less Than Significant Transportation Impact to VMT then the discussion of this finding must be included in the report.

Please provide our office with copies of any further actions regarding this proposal. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Satwinder Dhatt, Local Development Review Coordinator, by phone (530) 821-8261 or via email at satwinder.dhatt@dot.ca.gov.

Sincerely,

GARY ARNOLD, Branch Chief
Local Development Review, Equity and System Planning
Division of Planning, Local Assistance and Sustainability
Caltrans District 3

LETTER 4

Central Valley Regional Water Quality Control Board

15 September 2022

Scott Johnson
City of Sacramento
300 Richards Boulevard, 3rd Floor
Sacramento, CA 95811
srjohnson@cityofsacramento.org

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, NORTHGATE INDUSTRIAL PARK PROJECT, SCH#2022080348, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 16 August 2022 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Northgate Industrial Park Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state

may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information

regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

LETTER 5

Sacramento Metropolitan Air Quality Management District

SACRAMENTO METROPOLITAN

AIR QUALITY
MANAGEMENT DISTRICT

September 16, 2022

Ron Bess, Associate Planner
City of Sacramento Community Development Department
300 Richards Boulevard, 3rd Floor, Sacramento, CA 95811

Subject: Northgate Industrial Park (SCH# 2022080348)

Dear Ron Bess:

Thank you for providing the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District) with the opportunity to review the Northgate Industrial Park project Mitigated Negative Declaration (MND) under the California Environmental Quality Act (CEQA). This project is a request to develop an industrial park at a former retail facility location at 4100 Northgate Boulevard. The proposed project would include the renovation of an existing former retail building and the construction of a new structure to create approximately 265,686 square feet of industrial warehouse use. Sac Metro Air District offers the following recommendations on air quality and climate considerations for project implementation and CEQA review, consistent with methods recommended in our Guide to Air Quality Assessment in Sacramento County (CEQA Guide), available on our website:

- For full clear public disclosure, Sac Metro Air District recommends that all emissions tables in the MND text clearly correspond to model outputs in Appendix A. For example, Tables 4 & 5, "Unmitigated Project Construction Emissions" of particulate matter (PM) and "Mitigated PM Emissions from Project Construction," do not clearly correspond to numbers in the modeling runs in Appendix A. Further, we could not find clear correspondence between the emissions listed in Table 6, "PM Emissions from Project Operation," and numbers in the Appendix A modeling runs.

- Sac Metro Air District commends the explicit inclusion of our Basic Construction Emission Control Practices as mitigation, in conjunction with the use of our CEQA Guide's non-zero thresholds of significance for PM. We recommend that the MND explicitly include all measures from those practices in the mitigation, including the following measure: "Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1]. For more information contact CARB at 877-593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliance_cert1.html."

- Sac Metro Air District recommends explicit inclusion of Tier 1 Best Management Practices (BMPs) from the greenhouse gas (GHG) thresholds in our CEQA Guide. The MND indicates that "Though the proposed project completely implements BMP 1 and BMP 2, operational GHG

emissions generated a significant impact would occur. Per SMAQMD guidance, GHG emission reductions that would have occurred had BMP 1 been implemented have been estimated. The project would be required to implement Mitigation Measure 6-1 which includes on-site measures to offset these emissions." We were unable to locate Mitigation Measure 6-1 in the MND, and page 65 of the MND indicates that no mitigation is required.

Permitting Requirements

Please be aware that any future project manufacturing uses may require an Authority to Construct and Permit to Operate from the Sac Metro Air District. Please contact the Sac Metro Air District at 279-207-1122 or permitting@airquality.org with comments or questions on permit or registration requirements. For permit application forms and instructions, please visit the following page on the Sac Metro Air District website: http://www.airquality.org/Businesses/Permits-Registration-Programs.

Construction

As a reminder, all projects are subject to Sac Metro Air District rules and regulations in effect at the time of construction. Please visit our website to find a list of the most common rules that apply at the construction phase of projects.

Conclusion

Thank you for your attention to our comments. If you have questions about them, please contact Sac Metro Air District staff at mwright@airquality.org or 279-207-1157.

Sincerely,

Molly Wright

Molly Wright, AICP
Air Quality Planner / Analyst

c: Paul Philley, AICP, Program

ATTACHMENT AQ-1

Northgate Industrial - Emissions Summaries

CONSTRUCTION EMISSIONS - Criteria Air Pollutants - Uncontrolled

Year	Tons per year				Maximum Pounds per day (summer)			
	ROG	NOx	Total PM-10	Total PM-2.5	ROG	NOx	Total PM-10	Total PM-2.5
2022	0.10	1.03	**0.13**	**0.05**	3.0	31.5	**3.5**	**1.5**
2023	0.99	3.14	**0.34**	**0.18**	22.7	30.0	**3.2**	**1.7**
2024	0.66	0.36	**0.03**	**0.02**	20.3	11.1	**0.9**	**0.6**
PROJECT TOTAL	1.74	4.53	0.50	0.25				
SMAQMD Threshold	--	--	0.0	0	--	85	0	0

CONSTRUCTION EMISSIONS - Criteria Air Pollutants - With BMPs

Construction Year	Tons per year				Maximum Pounds per day (summer)			
	ROG	NOx	Total PM-10	Total PM-2.5	ROG	NOx	Total PM-10	Total PM-2.5
2022	0.10	1.03	0.09	0.05	3.0	31.5	2.6	1.4
2023	0.99	3.14	0.32	0.17	22.7	30.0	2.9	1.7
2024	0.66	0.36	0.03	0.02	20.3	11.1	0.9	0.6
PROJECT TOTAL	1.74	4.53	0.44	0.24				
SMAQMD Threshold	--	--	14.6	15	65	65	80	82

OPERATIONAL EMISSIONS - Criteria Air Pollutants

Source	Tons per year				Pounds per day (summer)			
	ROG	NOx	Total PM-10	Total PM-2.5	ROG	NOx	Total PM-10	Total PM-2.5
Proposed Uses								
Area	1.16	0.000	0.000	0.000	6.36	0.00	0.00	0.00
Energy	0.00	0.004	0.000	0.000	0.00	0.02	0.00	0.00
Mobile	0.46	0.627	0.973	0.265	3.08	3.17	5.53	1.50
Offroad Equipment	0.14	2.111	0.058	0.054	0.77	11.57	0.32	0.30
TOTAL - Proposed Project	1.62	0.63	0.97	0.27	10.2	14.8	5.9	1.8
Existing Uses								
Area	0.682	0.000	0.000	0.000	3.7	0.00	0.00	0.00
Energy	0.005	0.049	0.004	0.004	0.03	0.3	0.02	0.02
Mobile	4.671	4.827	4.542	1.247	43.2	31.4	33.02	9.03
TOTAL - Existing	5.36	4.88	4.55	1.25	46.9	31.7	33.0	9.1
Net Increase with Project	***-3.7***	***-4.2***	***-3.6***	***-1.0***	***-36.7***	***-16.9***	***-27.2***	***-7.3***

Project building area served by gas	156013	sqft	0.59
Project building area all electric	109673	sqft	
Total	**265686.0**		

CONSTRUCTION EMISSIONS - GHG as MT CO_2e

Construction Year	CO_2	CH_4	N_2O	CO_2e
2022	192.5	0.040	0.005	195.1
2023	723.4	0.097	0.020	731.9
2024	90.9	0.019	0.000	91.4
Total	1006.8	0.156	0.026	1018.4

OPERATIONAL EMISSIONS - GHG (MT CO_2e/year)

Operational Source	CO_2	CH_4	N_2O	CO_2e
Proposed Uses				
Area	0.0	0.000	0.000	0.01
Energy	151.0	0.005	0.001	84.08
Mobile	977.3	0.065	0.048	993.3
Offroad Equipment	372.3	0.120	0.000	375.3
Solid waste	50.7	2.996	0.000	125.6

VMT adjustment for project

CalEEMod default VMT	2604029	
Project VMT from traffic study	2943360	1.13031

Water & Wastewater	73.8	0.077	0.048	89.9
Total Project Operational Emissions	1625	3.26	0.10	1668
Existing Uses				
Area	0.0	0.000	0.000	0.003
Energy	399.0	0.033	0.005	401.3
Mobile	4398.6	0.450	0.308	4501.7
Solid waste	95.2	5.628	0.000	235.9
Water & Wastewater	17.8	0.378	0.009	30.0
Total Existing Operational Emissions	4911	6.489	0.322	5168.9
Net Change with Project	***-3286***	***-3***	***0***	***-3501***

VMT adjustment for existing

CalEEMod default VMT	6721872	
Existing VMT from traffic study	12156690	1.808527

Calculation of GHG reduction from all-electric development of new warehouse buidling

From CalEEMod annual output for Project,

Project Natural Gas Usage rate 130186 kBTU/yr
490 kBTU/ksf/yr
4.9 therms/ksf/yr

1 kBTU = 0.010002 therms

Project Electricity Usage rate 847538 kWh/yr
3190.0 kWh/ksf/yr

From the 2021 CAPCOA Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (page 283),
https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf

E-15. Require All-Electric Development

A = (-E * C * G * I * J) + (F * C * H * K * J)

A =	Reduction in GHG emissions from building energy	
B =	warehouse	housing or building type
C =	110	ksf
D =	13	Electricity Demand Forecast Zone from Fig E-1.1 and Table E-1.1
E =	4.9	therm per ksf per year, existing fuel consumption for natural gas end uses without measure
F =	3190.0	kWh per ksf per year, additional electricity use for equivalent electrified end uses with measure
G =	119	lb CO_2e per MMBtu, carbon intensity of natural gas for commercial
H =	374.84	lb CO_2e per MMBtu, carbon intensity of local electricity provider, from CalEEMod
I =	0.1	MMBtu per therm conversion
J =	0.00054	MT per lb conversion
K =	0.001	MWh per kWh conversion
Reduction in GHG emissions from building energy =	67.4	$MTCO_2e$/yr

Data Needs for AQ Analysis

This RFI is based on data needed to run CalEEMod to estimate construction and operational emissions. Refer to the user guide here:http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/01_user-39-s-guide2020-4-0.pdf?sfvrsn=6

Please fill out each table to the best of your ability. Only enter data in shaded cells.

*Cells shaded **RED** are REQUIRED information. Cells shaded **YELLOW** will be filled out using data from the project's traffic study.*

*Cells shaded **GREEN** have CalEEMod defaults available that will be used in the event no project specific information is available.*

Project: Northgate Industrial Park

PROJECT CHARACTERISTICS

Please provide a site plan showing location of loading docks, parking for trucks and trailers and truck routes to and from the project site.

Construction

Start year of construction	2022

Operations

What year would the project begin operations?	
What utility company would serve the project?	

LAND USE

Please provide details on proposed land uses. Add more rows if necessary.

Proposed Land Uses	Size	Unit	Area (square feet)	Site Area (acres)
Warehouse				17.55

What is the total site area that would be disturbed during construction?	

CONSTRUCTION

CONSTRUCTION PHASING

*This assumes construction will take place in one single phase. If it will be divided up, please add more information about it.**

Please add rows to the table below for each anticipated Construction Phase and subphase of the project.

CalEEMod defaults are available to generate a construction schedule if project specific information is unavailable, as long as a project start date is provided.

Construction Phase	Start Date	End Date	No. of Working Days
Site Preparation	10/1/2022	12/31/2022	65
Grading	10/1/2022	3/31/2023	130
Building Construction	1/1/2023	12/31/2023	260
Paving	10/1/2023	3/31/2024	130
Architectural Coating	10/1/2023	3/31/2024	130

Construction workdays per week - 5, 6, or 7?	5
Weekday construction hours	
Weekend construction hours (if applicable)	

Add more rows for other Construction Phases if necessary.

CONSTRUCTION EQUIPMENT

Please list the types of construction equipment that would be used for each subphase of each Construction Phase by selecting from the drop down menu in each cell.

Add more rows for other Contruction Phases if necessary. CalEEMod defaults are available in the absence of project specific information.

Construction Phase

Site Preparation

Equipment Type	Number of Equipment	Number of Days Used	Hours/Day Used	Horsepower
Excavators	1		8	
Generator Sets	1		8	
Scrapers	1		8	
Skid Steer Loaders	1		8	
Tractors/Loaders/Backhoes	1		8	

Grading

Equipment Type	Number of Equipment	Number of Days Used	Hours/Day Used	Horsepower
Generator Sets	1		8	
Graders	1		8	
Rollers	1		8	
Skid Steer Loaders	1		8	
Tractors/Loaders/Backhoes	1		8	

Building Construction

Equipment Type	Number of Equipment	Number of Days Used	Hours/Day Used	Horsepower
Air Compressors	1		8	
Cranes	1		8	
Forklifts	1		8	
Generator Sets	1		8	
Pumps	1		8	
Skid Steer Loaders	1		8	
Tractors/Loaders/Backhoes	1		8	
Welders	1		8	

Paving Phase

Equipment Type	Number of Equipment	Number of Days Used	Hours/Day Used	Horsepower
Generator Sets	1		8	
Pavers	1		8	
Paving Equipment	1		8	
Rollers	1		8	
Surfacing Equipment	1		8	

DUST FROM MATERIAL MOVEMENT

Only applicable for site preparation and grading subphases. Skip if there are no site preparation or grading subphases throughout the project.

Construction Phase

Sub-phase	Volume of Material Imported (cubic yards)	Volume of Material Exported (cubic yards)
Site Preparation		
Grading		

What is the capacity of haul trucks that would be importing/exporting material?	

DEMOLITION

Only applicable if demolition is proposed as part of the project.

Construction Phase

Sub-phase	Area	Units (building square footage or tons of debris)
Building area to be demolished		
Concrete/asphalt area to be demolished	3.28	acres

CONSTRUCTION TRIPS AND VEHICLE MILES TRAVELED

*Please provide the number of **one-way vehicle trips** and trip lengths associated with workers, material delivery, and hauling during each construction sub-phase.*
CalEEMod defaults can be generated for worker and vendor trips estimating # of haul trips. If demolition data and in-fill and off-haul volumes are provided, haul trips can be estimated.

Construction Phase

Sub-phase	Average # of workers/day	# of worker trips/day	# vendor trips/day	# haul trips (trips per phase)
Site Prep		20		990
Grading		30		
Building Construction		120	5	
Paving		30		

Construction Trips	Average one-way trip length (miles)
Worker	*Default*
Vendor	*Default*
Haul	*Default*

ARCHITECTURAL COATINGS

Please indicate if using Low VOC paints and architectutal coatings.

Construction Phase

Sub-phase	VOC of interior building paint	VOC of exterior building paint
Architectural Coating	*Default*	*Default*

OPERATIONAL

MOBILE SOURCES (From traffic report)

What is the average number of *one-way* trips that would occur on the weekdays?		one-way trips
Average number of *one-way* trips on Saturdays?		one-way trips
Average number of one-way trips on Sundays?		one-way trips
Average number of *one-way* truck trips per operational day		one-way trips

Will the warehouse be served by Transport Refrigeration Units?
If yes, please provide number per day, and duration of engine use per trip for loading and unloading

OPERATION HOURS AND DAYS

Hours a day	Number of days per week

OPERATIONAL LOADING/UNLOADING EQUIPMENT (IF NOT ELECTRIC)

Equipment Type	Number of Equipment	Fuel Type	Hours/Day Used	Horsepower

EQUIPMENT USED WITHIN THE WAREHOUSE (IF NOT ELECTRIC)

Equipment Type	Number of Equipment	Fuel Type	Hours/Day Used	Horsepower

Please add additional rows if necessary to account for all equipment.

Emergency Generators or Fire Pumps - if any. Please provide location of generator if any.

Equip Type	# Equipment	Fuel Type	Horsepower	Tier

Boilers - if any

Equip Type	# Equipment	Fuel Type	Boiler Rating (MMBtu	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

ENERGY USE

Please add an estimate of operational energy use per year in kWh per year.

Electricity		kWh per year
Natural gas		kBTU per year
Propane		kBTU per year

SUSTAINABILITY FEATURES

Please provide a list of any sustainability feautres as part of project design (all-electric buildings, LEED certification, Cool Roofs, outside solar, EV plug-ins at loading docks, stormwater harvesting, etc.).

Estimation of Parking area demo volume

Assuming 8 inches of base aggregate, 2 inches of binder and 2 inches of asphalt and 3.28 acres of paved area to be removed,

volume of asphalt waste =	142876.8	cubic feet
	5291.7	cubic yards
Broken asphalt weight =	4950	tons
1 cubic yard of broken asphalt =	1	ton
Truck capacity =	10	tons
number of truck loads =	495	loads
	990	one-way trips

Concrete & Asphalt Weight Calculator Can also be used for brick, dirt, gravel, etc.

How much does a yard of concrete or asphalt weigh?

Concrete and asphalt weights are based on the square footage and thickness of the material. On average, a cubic yard of solid concrete weighs 4,050 pounds (~2 tons), or 150 pounds per cubic foot. Solid asphalt weighs slightly less at 3,960 pounds per cubic yard.

However, broken concrete and asphalt weighs closer to 2,025 pounds (~1 ton) per cubic yard, or 75 pounds per cubic foot, when disposed of in a dumpster due to the amount of empty space. When disposing of either material, use our concrete weight calculator to determine the right dumpster for asphalt and concrete disposal.

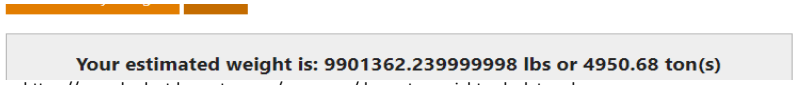
How many square feet of debris need to be disposed of?	142876.8	sq ft
What is the approximate thickness?	11	inches

Commercial Lots

Standard commercial lots should be made with an 8.0-inch dense aggregate base layer to provide a stable sub-base foundation. There should be a binder layer of about 1.5 to 2.0 inches in thickness, depending on how much traffic you expect in the lot. Finally, there will be a final asphalt layer of smaller stone, also 1.5 to 2.0 inches thick.

The exact measurements vary based on site conditions and the amount of traffic you can expect on your lot. You can expect the asphalt thickness to fall under the range specified above, if the underlying soil has good drainage.

Source: https://www.acplm.net/asphalt-parking-lot-thickness/



Source: https://www.budgetdumpster.com/resources/dumpster-weight-calculator.php

Operational Offroad Equipment assumed for Warehouse Operations

Warehouse assumed to operate all 7 days a week, 8 hours a day

	Project Example 1	Project Example 2	Northgate
Equipment within the warehouse (per building)	All equipment was assumed to be electric with no contribution to direct emissions or health risk	Forklifts	Forklifts
Number of equipment		5	5
Fuel		Natural Gas	Natural Gas
hp		93	93
Load factor		0.2	0.2
Activity - Hrs/day		4	8
Activity - days/week		7	7
Equipment in the yard/parking area	Yard Tractor	Yard trucks/hostlers	Yard Tractor
Number of equipment	2	2	2
Fuel	Diesel	Propane	Diesel
hp	300	199	300
Load factor	--	0.39	0.39
Activity - Hrs/day	Two 8 hr shifts	7	8
Activity - days/week	6	7	7
Emergency Generator	--	1 per 1.5 million sqft	--
Fuel	--	Diesel	--
hp	--	315	--
Testing - Hrs/day	--	--	--
Testing -- Hrs/year	--	--	--

Construction Energy Use

Source	MT of CO_2
Total GHG from Diesel use	881.2
Total GHG from Gasoline Use	125.6
Onsite GHG from diesel use	731.3
Onroad GHG from diesel use	150.0
Percent onsite diesel	83.0%
Percent onroad diesel	17.0%

CO_2 from diesel fuel combustion[a] = 10.2 kg of CO_2/gallon of diesel

CO_2 from gasoline fuel combustion[a] = 8.78 kg of CO_2/gallon of gasoline

CO_2 from CNG combustion[a] = 0.05 kg of CO_2/standard cubic feet

[a] Emissions factors per The Climate Registry 2019 Default Emission Factors (Table 2.1 - US Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels)

Conversion 1 MT = 1000 kg

Source	Fuel	Gallons
Onsite construction equipment	Diesel	71,624.9
Onroad diesel trucks	Diesel	14,687.0
Total Diesel	Diesel	86,311.9
Onroad Gasoline vehicles	Gasoline	14,300.6

Operational Energy Use

Source	Energy Type	Quantity	Units
Building Energy Use	Natural Gas	76,446.3	kBTU/yr
Building Energy Use	Electricity	1,197,394.7	kWh/yr
Warehouse equipment	Diesel	20,706.5	gallons/year
Warehouse Equipment	CNG	18,368.8	cubic feet
Mobile sources	All	977.3	$MTCO_2e$/yr
Onroad GHG from diesel use	Diesel	55.4	$MTCO_2e$/yr
Onroad GHG from gasoline use	Gasoline	921.9	$MTCO_2e$/yr
Total Operational Diesel	Diesel	26,134.4	gallons/year
Operational Gasoline	Gasoline	105,000.6	gallons/year

ATTACHMENT AQ-2

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

Northgate Industrial - Proposed

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	265.69	1000sqft	17.55	265,686.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	374.84	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From PD

Construction Phase - Project data. Added Architectural Coatings phase conservatively assumed to be concurrent with paving

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Assumed

Grading -

Trips and VMT - Project specific worker trips available, vendor trip default for building construction adjusted to include concrete delivery, site preparation trips include parking lot demo trips

Vehicle Trips - From Project Traffic Study

Northgate Industrial - Proposed - Sacramento County, Annual

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

Operational Off-Road Equipment - Equipment assumed based on similar project

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	PhaseEndDate	4/12/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	2/16/2024	12/31/2023
tblConstructionPhase	PhaseEndDate	12/23/2022	3/31/2023
tblConstructionPhase	PhaseEndDate	3/15/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	11/11/2022	12/31/2022
tblConstructionPhase	PhaseStartDate	3/16/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	12/24/2022	1/1/2023
tblConstructionPhase	PhaseStartDate	11/12/2022	10/1/2022
tblConstructionPhase	PhaseStartDate	2/17/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	10/29/2022	10/1/2022
tblLandUse	LandUseSquareFeet	265,690.00	265,686.00
tblLandUse	LotAcreage	6.10	17.55
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors

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

tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperLoadFactor	0.41	0.41
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	990.00

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

tblTripsAndVMT	VendorTripNumber	44.00	49.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	112.00	120.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblVehicleTrips	ST_TR	1.74	3.37
tblVehicleTrips	SU_TR	1.74	3.37
tblVehicleTrips	WD_TR	1.74	3.37

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2022	0.0959	1.0302	0.9624	2.1600e-003	0.0892	0.0413	0.1305	0.0129	0.0388	0.0517	0.0000	192.5315	192.5315	0.0403	5.3400e-003	195.1297
2023	0.9876	3.1431	3.7071	8.1700e-003	0.2059	0.1315	0.3374	0.0502	0.1262	0.1764	0.0000	723.3929	723.3929	0.0967	0.0204	731.8921
2024	0.6595	0.3601	0.5248	1.0400e-003	0.0124	0.0165	0.0289	3.3000e-003	0.0156	0.0189	0.0000	90.8792	90.8792	0.0185	2.6000e-004	91.4193
Maximum	**0.9876**	**3.1431**	**3.7071**	**8.1700e-003**	**0.2059**	**0.1315**	**0.3374**	**0.0502**	**0.1262**	**0.1764**	**0.0000**	**723.3929**	**723.3929**	**0.0967**	**0.0204**	**731.8921**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0959	1.0302	0.9624	2.1600e-003	0.0513	0.0413	0.0926	8.8200e-003	0.0388	0.0476	0.0000	192.5313	192.5313	0.0403	5.3400e-003	195.1295
2023	0.9876	3.1431	3.7070	8.1700e-003	0.1870	0.1315	0.3184	0.0481	0.1262	0.1743	0.0000	723.3923	723.3923	0.0967	0.0204	731.8915
2024	0.6595	0.3601	0.5248	1.0400e-003	0.0124	0.0165	0.0289	3.3000e-003	0.0156	0.0189	0.0000	90.8791	90.8791	0.0185	2.6000e-004	91.4192
Maximum	**0.9876**	**3.1431**	**3.7070**	**8.1700e-003**	**0.1870**	**0.1315**	**0.3184**	**0.0481**	**0.1262**	**0.1743**	**0.0000**	**723.3923**	**723.3923**	**0.0967**	**0.0204**	**731.8915**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**18.49**	**0.00**	**11.45**	**9.26**	**0.00**	**2.49**	**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	**10-1-2022**	**12-31-2022**	1.1408	1.1408
2	**1-1-2023**	**3-31-2023**	1.0694	1.0694
3	**4-1-2023**	**6-30-2023**	0.6677	0.6677
4	**7-1-2023**	**9-30-2023**	0.6750	0.6750
5	**10-1-2023**	**12-31-2023**	1.7345	1.7345
6	**1-1-2024**	**3-31-2024**	1.0201	1.0201
		Highest	1.7345	1.7345

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1611	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003
Energy	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	151.0496	151.0496	5.1300e-003	9.0000e-004	151.4449
Mobile	0.4613	0.6265	4.3995	9.3400e-003	0.9652	7.3800e-003	0.9726	0.2581	6.8900e-003	0.2650	0.0000	864.6511	864.6511	0.0578	0.0425	878.7702
Offroad	0.1413	2.1109	9.0620	3.8100e-003		0.0581	0.0581		0.0541	0.0541	0.0000	372.2833	372.2833	0.1204	0.0000	375.2934
Waste						0.0000	0.0000		0.0000	0.0000	50.6970	0.0000	50.6970	2.9961	0.0000	125.5997
Water						0.0000	0.0000		0.0000	0.0000	21.7379	52.0505	73.7883	0.0766	0.0476	89.8740
Total	**1.7644**	**2.7438**	**13.4702**	**0.0132**	**0.9652**	**0.0659**	**1.0311**	**0.2581**	**0.0615**	**0.3196**	**72.4349**	**1,440.0410**	**1,512.4758**	**3.2561**	**0.0910**	**1,620.9891**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1611	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003
Energy	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	151.0496	151.0496	5.1300e-003	9.0000e-004	151.4449
Mobile	0.4613	0.6265	4.3995	9.3400e-003	0.9652	7.3800e-003	0.9726	0.2581	6.8900e-003	0.2650	0.0000	864.6511	864.6511	0.0578	0.0425	878.7702
Offroad	0.1413	2.1109	9.0620	3.8100e-003		0.0581	0.0581		0.0541	0.0541	0.0000	372.2833	372.2833	0.1204	0.0000	375.2934
Waste						0.0000	0.0000		0.0000	0.0000	50.6970	0.0000	50.6970	2.9961	0.0000	125.5997
Water						0.0000	0.0000		0.0000	0.0000	21.7379	52.0505	73.7883	0.0766	0.0476	89.8740
Total	**1.7644**	**2.7438**	**13.4702**	**0.0132**	**0.9652**	**0.0659**	**1.0311**	**0.2581**	**0.0615**	**0.3196**	**72.4349**	**1,440.0410**	**1,512.4758**	**3.2561**	**0.0910**	**1,620.9891**

	ROG	NOx	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	Site Preparation	Site Preparation	10/1/2022	12/31/2022	5	65	
2	Grading	Grading	10/1/2022	3/31/2023	5	130	

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

3	Building Construction	Building Construction	1/1/2023	12/31/2023	5	260	
4	Paving	Paving	10/1/2023	3/31/2024	5	130	
5	Architectural Coating	Architectural Coating	10/1/2023	3/31/2024	5	130	

Acres of Grading (Site Preparation Phase): 65

Acres of Grading (Grading Phase): 65

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 398,529; Non-Residential Outdoor: 132,843; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Site Preparation	Generator Sets	1	8.00	84	0.74
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Pumps	1	8.00	84	0.74
Grading	Generator Sets	1	8.00	84	0.74
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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

Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Grading	Rollers	1	8.00	80	0.38
Grading	Skid Steer Loaders	1	8.00	65	0.37
Paving	Generator Sets	1	8.00	84	0.74
Paving	Surfacing Equipment	1	8.00	263	0.30

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
Site Preparation	5	20.00	0.00	990.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	120.00	49.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0345	0.0000	0.0345	3.7200e-003	0.0000	3.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0517	0.5298	0.5517	1.0500e-003		0.0230	0.0230		0.0216	0.0216	0.0000	91.5172	91.5172	0.0245	0.0000	92.1304
Total	**0.0517**	**0.5298**	**0.5517**	**1.0500e-003**	**0.0345**	**0.0230**	**0.0575**	**3.7200e-003**	**0.0216**	**0.0253**	**0.0000**	**91.5172**	**91.5172**	**0.0245**	**0.0000**	**92.1304**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0300e-003	0.0911	0.0170	3.2000e-004	8.3700e-003	7.4000e-004	9.1200e-003	2.3000e-003	7.1000e-004	3.0100e-003	0.0000	31.8104	31.8104	1.2800e-003	5.0400e-003	33.3449
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	2.0000e-003	1.3000e-003	0.0164	4.0000e-005	4.7700e-003	3.0000e-005	4.8000e-003	1.2700e-003	2.0000e-005	1.2900e-003	0.0000	3.9058	3.9058	1.3000e-004	1.2000e-004	3.9444
Total	**4.0300e-003**	**0.0924**	**0.0334**	**3.6000e-004**	**0.0131**	**7.7000e-004**	**0.0139**	**3.5700e-003**	**7.3000e-004**	**4.3000e-003**	**0.0000**	**35.7161**	**35.7161**	**1.4100e-003**	**5.1600e-003**	**37.2893**

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

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0517	0.5298	0.5517	1.0500e-003		0.0230	0.0230		0.0216	0.0216	0.0000	91.5171	91.5171	0.0245	0.0000	92.1303
Total	**0.0517**	**0.5298**	**0.5517**	**1.0500e-003**	**0.0155**	**0.0230**	**0.0385**	**1.6700e-003**	**0.0216**	**0.0232**	**0.0000**	**91.5171**	**91.5171**	**0.0245**	**0.0000**	**92.1303**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0300e-003	0.0911	0.0170	3.2000e-004	8.3700e-003	7.4000e-004	9.1200e-003	2.3000e-003	7.1000e-004	3.0100e-003	0.0000	31.8104	31.8104	1.2800e-003	5.0400e-003	33.3449
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	2.0000e-003	1.3000e-003	0.0164	4.0000e-005	4.7700e-003	3.0000e-005	4.8000e-003	1.2700e-003	2.0000e-005	1.2900e-003	0.0000	3.9058	3.9058	1.3000e-004	1.2000e-004	3.9444
Total	**4.0300e-003**	**0.0924**	**0.0334**	**3.6000e-004**	**0.0131**	**7.7000e-004**	**0.0139**	**3.5700e-003**	**7.3000e-004**	**4.3000e-003**	**0.0000**	**35.7161**	**35.7161**	**1.4100e-003**	**5.1600e-003**	**37.2893**

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0345	0.0000	0.0345	3.7200e-003	0.0000	3.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0372	0.4059	0.3528	6.8000e-004		0.0175	0.0175		0.0164	0.0164	0.0000	59.4395	59.4395	0.0142	0.0000	59.7934
Total	**0.0372**	**0.4059**	**0.3528**	**6.8000e-004**	**0.0345**	**0.0175**	**0.0519**	**3.7200e-003**	**0.0164**	**0.0202**	**0.0000**	**59.4395**	**59.4395**	**0.0142**	**0.0000**	**59.7934**

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	3.0000e-003	1.9600e-003	0.0246	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.8587	5.8587	2.0000e-004	1.8000e-004	5.9166
Total	**3.0000e-003**	**1.9600e-003**	**0.0246**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.8587**	**5.8587**	**2.0000e-004**	**1.8000e-004**	**5.9166**

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0372	0.4059	0.3528	6.8000e-004		0.0175	0.0175		0.0164	0.0164	0.0000	59.4394	59.4394	0.0142	0.0000	59.7933
Total	**0.0372**	**0.4059**	**0.3528**	**6.8000e-004**	**0.0155**	**0.0175**	**0.0330**	**1.6700e-003**	**0.0164**	**0.0181**	**0.0000**	**59.4394**	**59.4394**	**0.0142**	**0.0000**	**59.7933**

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	3.0000e-003	1.9600e-003	0.0246	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.8587	5.8587	2.0000e-004	1.8000e-004	5.9166
Total	**3.0000e-003**	**1.9600e-003**	**0.0246**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.8587**	**5.8587**	**2.0000e-004**	**1.8000e-004**	**5.9166**

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

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0345	0.0000	0.0345	3.7200e-003	0.0000	3.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3691	0.3511	6.8000e-004		0.0153	0.0153		0.0144	0.0144	0.0000	59.4399	59.4399	0.0141	0.0000	59.7921
Total	**0.0344**	**0.3691**	**0.3511**	**6.8000e-004**	**0.0345**	**0.0153**	**0.0498**	**3.7200e-003**	**0.0144**	**0.0182**	**0.0000**	**59.4399**	**59.4399**	**0.0141**	**0.0000**	**59.7921**

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	2.8000e-003	1.7300e-003	0.0227	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.6734	5.6734	1.8000e-004	1.6000e-004	5.7269
Total	**2.8000e-003**	**1.7300e-003**	**0.0227**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.6734**	**5.6734**	**1.8000e-004**	**1.6000e-004**	**5.7269**

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

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3690	0.3511	6.8000e-004		0.0153	0.0153		0.0144	0.0144	0.0000	59.4398	59.4398	0.0141	0.0000	59.7921
Total	**0.0344**	**0.3690**	**0.3511**	**6.8000e-004**	**0.0155**	**0.0153**	**0.0308**	**1.6700e-003**	**0.0144**	**0.0161**	**0.0000**	**59.4398**	**59.4398**	**0.0141**	**0.0000**	**59.7921**

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	2.8000e-003	1.7300e-003	0.0227	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.6734	5.6734	1.8000e-004	1.6000e-004	5.7269
Total	**2.8000e-003**	**1.7300e-003**	**0.0227**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.6734**	**5.6734**	**1.8000e-004**	**1.6000e-004**	**5.7269**

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2358	2.0538	2.3501	4.1800e-003		0.0957	0.0957		0.0924	0.0924	0.0000	358.1551	358.1551	0.0580	0.0000	359.6049
Total	**0.2358**	**2.0538**	**2.3501**	**4.1800e-003**		**0.0957**	**0.0957**		**0.0924**	**0.0924**	**0.0000**	**358.1551**	**358.1551**	**0.0580**	**0.0000**	**359.6049**

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	8.3000e-003	0.3105	0.0936	1.2100e-003	0.0373	1.6500e-003	0.0390	0.0108	1.5800e-003	0.0124	0.0000	118.1439	118.1439	2.9100e-003	0.0173	123.3827
Worker	0.0447	0.0277	0.3627	9.9000e-004	0.1146	6.1000e-004	0.1152	0.0305	5.6000e-004	0.0310	0.0000	90.7747	90.7747	2.9100e-003	2.6300e-003	91.6302
Total	**0.0530**	**0.3382**	**0.4563**	**2.2000e-003**	**0.1519**	**2.2600e-003**	**0.1541**	**0.0413**	**2.1400e-003**	**0.0434**	**0.0000**	**208.9186**	**208.9186**	**5.8200e-003**	**0.0200**	**215.0129**

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2358	2.0538	2.3501	4.1800e-003		0.0957	0.0957		0.0924	0.0924	0.0000	358.1547	358.1547	0.0580	0.0000	359.6045
Total	**0.2358**	**2.0538**	**2.3501**	**4.1800e-003**		**0.0957**	**0.0957**		**0.0924**	**0.0924**	**0.0000**	**358.1547**	**358.1547**	**0.0580**	**0.0000**	**359.6045**

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	8.3000e-003	0.3105	0.0936	1.2100e-003	0.0373	1.6500e-003	0.0390	0.0108	1.5800e-003	0.0124	0.0000	118.1439	118.1439	2.9100e-003	0.0173	123.3827
Worker	0.0447	0.0277	0.3627	9.9000e-004	0.1146	6.1000e-004	0.1152	0.0305	5.6000e-004	0.0310	0.0000	90.7747	90.7747	2.9100e-003	2.6300e-003	91.6302
Total	**0.0530**	**0.3382**	**0.4563**	**2.2000e-003**	**0.1519**	**2.2600e-003**	**0.1541**	**0.0413**	**2.1400e-003**	**0.0434**	**0.0000**	**208.9186**	**208.9186**	**5.8200e-003**	**0.0200**	**215.0129**

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

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0327	0.3209	0.4091	8.1000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	70.3079	70.3079	0.0176	0.0000	70.7481
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0327**	**0.3209**	**0.4091**	**8.1000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**70.3079**	**70.3079**	**0.0176**	**0.0000**	**70.7481**

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	2.8000e-003	1.7300e-003	0.0227	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.6734	5.6734	1.8000e-004	1.6000e-004	5.7269
Total	**2.8000e-003**	**1.7300e-003**	**0.0227**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.6734**	**5.6734**	**1.8000e-004**	**1.6000e-004**	**5.7269**

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

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0327	0.3209	0.4091	8.1000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	70.3078	70.3078	0.0176	0.0000	70.7480
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0327**	**0.3209**	**0.4091**	**8.1000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**70.3078**	**70.3078**	**0.0176**	**0.0000**	**70.7480**

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	2.8000e-003	1.7300e-003	0.0227	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	4.0000e-005	1.9400e-003	0.0000	5.6734	5.6734	1.8000e-004	1.6000e-004	5.7269
Total	**2.8000e-003**	**1.7300e-003**	**0.0227**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**4.0000e-005**	**1.9400e-003**	**0.0000**	**5.6734**	**5.6734**	**1.8000e-004**	**1.6000e-004**	**5.7269**

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

3.5 Paving - 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	0.0314	0.3046	0.4098	8.1000e-004		0.0138	0.0138		0.0129	0.0129	0.0000	70.3023	70.3023	0.0175	0.0000	70.7408
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0314**	**0.3046**	**0.4098**	**8.1000e-004**		**0.0138**	**0.0138**		**0.0129**	**0.0129**	**0.0000**	**70.3023**	**70.3023**	**0.0175**	**0.0000**	**70.7408**

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	2.6100e-003	1.5400e-003	0.0211	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	3.0000e-005	1.9400e-003	0.0000	5.4882	5.4882	1.6000e-004	1.5000e-004	5.5378
Total	**2.6100e-003**	**1.5400e-003**	**0.0211**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**3.0000e-005**	**1.9400e-003**	**0.0000**	**5.4882**	**5.4882**	**1.6000e-004**	**1.5000e-004**	**5.5378**

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

3.5 Paving - 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	0.0314	0.3046	0.4098	8.1000e-004		0.0138	0.0138		0.0129	0.0129	0.0000	70.3022	70.3022	0.0175	0.0000	70.7407
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0314**	**0.3046**	**0.4098**	**8.1000e-004**		**0.0138**	**0.0138**		**0.0129**	**0.0129**	**0.0000**	**70.3022**	**70.3022**	**0.0175**	**0.0000**	**70.7407**

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	2.6100e-003	1.5400e-003	0.0211	6.0000e-005	7.1600e-003	4.0000e-005	7.2000e-003	1.9000e-003	3.0000e-005	1.9400e-003	0.0000	5.4882	5.4882	1.6000e-004	1.5000e-004	5.5378
Total	**2.6100e-003**	**1.5400e-003**	**0.0211**	**6.0000e-005**	**7.1600e-003**	**4.0000e-005**	**7.2000e-003**	**1.9000e-003**	**3.0000e-005**	**1.9400e-003**	**0.0000**	**5.4882**	**5.4882**	**1.6000e-004**	**1.5000e-004**	**5.5378**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6157					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3100e-003	0.0565	0.0785	1.3000e-004		3.0700e-003	3.0700e-003		3.0700e-003	3.0700e-003	0.0000	11.0641	11.0641	6.6000e-004	0.0000	11.0807
Total	**0.6240**	**0.0565**	**0.0785**	**1.3000e-004**		**3.0700e-003**	**3.0700e-003**		**3.0700e-003**	**3.0700e-003**	**0.0000**	**11.0641**	**11.0641**	**6.6000e-004**	**0.0000**	**11.0807**

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	2.0500e-003	1.2700e-003	0.0166	5.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	4.1605	4.1605	1.3000e-004	1.2000e-004	4.1997
Total	**2.0500e-003**	**1.2700e-003**	**0.0166**	**5.0000e-005**	**5.2500e-003**	**3.0000e-005**	**5.2800e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.1605**	**4.1605**	**1.3000e-004**	**1.2000e-004**	**4.1997**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6157					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3100e-003	0.0565	0.0785	1.3000e-004		3.0700e-003	3.0700e-003		3.0700e-003	3.0700e-003	0.0000	11.0641	11.0641	6.6000e-004	0.0000	11.0806
Total	**0.6240**	**0.0565**	**0.0785**	**1.3000e-004**		**3.0700e-003**	**3.0700e-003**		**3.0700e-003**	**3.0700e-003**	**0.0000**	**11.0641**	**11.0641**	**6.6000e-004**	**0.0000**	**11.0806**

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	2.0500e-003	1.2700e-003	0.0166	5.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	4.1605	4.1605	1.3000e-004	1.2000e-004	4.1997
Total	**2.0500e-003**	**1.2700e-003**	**0.0166**	**5.0000e-005**	**5.2500e-003**	**3.0000e-005**	**5.2800e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.1605**	**4.1605**	**1.3000e-004**	**1.2000e-004**	**4.1997**

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

3.6 Architectural Coating - 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					
Archit. Coating	0.6157					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8300e-003	0.0528	0.0784	1.3000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	11.0641	11.0641	6.2000e-004	0.0000	11.0797
Total	**0.6236**	**0.0528**	**0.0784**	**1.3000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**11.0641**	**11.0641**	**6.2000e-004**	**0.0000**	**11.0797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.1300e-003	0.0155	4.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.4000e-003	2.0000e-005	1.4200e-003	0.0000	4.0246	4.0246	1.2000e-004	1.1000e-004	4.0610
Total	**1.9200e-003**	**1.1300e-003**	**0.0155**	**4.0000e-005**	**5.2500e-003**	**3.0000e-005**	**5.2800e-003**	**1.4000e-003**	**2.0000e-005**	**1.4200e-003**	**0.0000**	**4.0246**	**4.0246**	**1.2000e-004**	**1.1000e-004**	**4.0610**

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

3.6 Architectural Coating - 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					
Archit. Coating	0.6157					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8300e-003	0.0528	0.0784	1.3000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	11.0641	11.0641	6.2000e-004	0.0000	11.0797
Total	**0.6236**	**0.0528**	**0.0784**	**1.3000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**11.0641**	**11.0641**	**6.2000e-004**	**0.0000**	**11.0797**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.1300e-003	0.0155	4.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.4000e-003	2.0000e-005	1.4200e-003	0.0000	4.0246	4.0246	1.2000e-004	1.1000e-004	4.0610
Total	**1.9200e-003**	**1.1300e-003**	**0.0155**	**4.0000e-005**	**5.2500e-003**	**3.0000e-005**	**5.2800e-003**	**1.4000e-003**	**2.0000e-005**	**1.4200e-003**	**0.0000**	**4.0246**	**4.0246**	**1.2000e-004**	**1.1000e-004**	**4.0610**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4613	0.6265	4.3995	9.3400e-003	0.9652	7.3800e-003	0.9726	0.2581	6.8900e-003	0.2650	0.0000	864.6511	864.6511	0.0578	0.0425	878.7702
Unmitigated	0.4613	0.6265	4.3995	9.3400e-003	0.9652	7.3800e-003	0.9726	0.2581	6.8900e-003	0.2650	0.0000	864.6511	864.6511	0.0578	0.0425	878.7702

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	895.38	895.38	895.38	2,604,029	2,604,029
Total	895.38	895.38	895.38	2,604,029	2,604,029

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
Unrefrigerated Warehouse-No	10.00	5.00	6.50	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.542485	0.056811	0.183752	0.130945	0.025591	0.005989	0.013266	0.009393	0.000917	0.000565	0.025954	0.000983	0.003351

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	144.1023	144.1023	5.0000e-003	7.7000e-004	144.4564
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	144.1023	144.1023	5.0000e-003	7.7000e-004	144.4564
NaturalGas Mitigated	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9472	6.9472	1.3000e-004	1.3000e-004	6.9885
NaturalGas Unmitigated	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9472	6.9472	1.3000e-004	1.3000e-004	6.9885

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Unrefrigerated Warehouse-No Rail	130186	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9472	6.9472	1.3000e-004	1.3000e-004	6.9885
Total		**7.0000e-004**	**6.3800e-003**	**5.3600e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9472**	**6.9472**	**1.3000e-004**	**1.3000e-004**	**6.9885**

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					
Unrefrigerated Warehouse-No Rail	130186	7.0000e-004	6.3800e-003	5.3600e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9472	6.9472	1.3000e-004	1.3000e-004	6.9885
Total		**7.0000e-004**	**6.3800e-003**	**5.3600e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9472**	**6.9472**	**1.3000e-004**	**1.3000e-004**	**6.9885**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	847538	144.1023	5.0000e-003	7.7000e-004	144.4564
Total		**144.1023**	**5.0000e-003**	**7.7000e-004**	**144.4564**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	847538	144.1023	5.0000e-003	7.7000e-004	144.4564
Total		**144.1023**	**5.0000e-003**	**7.7000e-004**	**144.4564**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1611	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003
Unmitigated	1.1611	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003

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	0.1232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0376					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.1000e-004	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003
Total	**1.1611**	**3.0000e-005**	**3.3900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.5900e-003**	**6.5900e-003**	**2.0000e-005**	**0.0000**	**7.0200e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.1232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0376					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.1000e-004	3.0000e-005	3.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.5900e-003	6.5900e-003	2.0000e-005	0.0000	7.0200e-003
Total	**1.1611**	**3.0000e-005**	**3.3900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.5900e-003**	**6.5900e-003**	**2.0000e-005**	**0.0000**	**7.0200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	73.7883	0.0766	0.0476	89.8740
Unmitigated	73.7883	0.0766	0.0476	89.8740

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	61.4408 / 0	73.7883	0.0766	0.0476	89.8740
Total		**73.7883**	**0.0766**	**0.0476**	**89.8740**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	61.4408 / 0	73.7883	0.0766	0.0476	89.8740
Total		**73.7883**	**0.0766**	**0.0476**	**89.8740**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	50.6970	2.9961	0.0000	125.5997
Unmitigated	50.6970	2.9961	0.0000	125.5997

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	249.75	50.6970	2.9961	0.0000	125.5997
Total		**50.6970**	**2.9961**	**0.0000**	**125.5997**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	249.75	50.6970	2.9961	0.0000	125.5997
Total		**50.6970**	**2.9961**	**0.0000**	**125.5997**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	5	8.00	365	89	0.20	CNG

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

Graders	2	8.00	365	187	0.41	Diesel

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					
Forklifts	0.0123	0.5989	8.4593	1.4000e-003		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003	0.0000	160.8696	160.8696	0.0520	0.0000	162.1703
Graders	0.1290	1.5120	0.6027	2.4100e-003		0.0490	0.0490		0.0451	0.0451	0.0000	211.4137	211.4137	0.0684	0.0000	213.1231
Total	**0.1413**	**2.1109**	**9.0620**	**3.8100e-003**		**0.0581**	**0.0581**		**0.0541**	**0.0541**	**0.0000**	**372.2833**	**372.2833**	**0.1204**	**0.0000**	**375.2934**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Northgate Industrial - Proposed

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	265.69	1000sqft	17.55	265,686.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	374.84	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From PD

Construction Phase - Project data. Added Architectural Coatings phase conservatively assumed to be concurrent with paving

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Assumed

Grading -

Trips and VMT - Project specific worker trips available, vendor trip default for building construction adjusted to include concrete delivery, site preparation trips include parking lot demo trips

Vehicle Trips - From Project Traffic Study

Northgate Industrial - Proposed - Sacramento County, Summer

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

Operational Off-Road Equipment - Equipment assumed based on similar project

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	PhaseEndDate	4/12/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	2/16/2024	12/31/2023
tblConstructionPhase	PhaseEndDate	12/23/2022	3/31/2023
tblConstructionPhase	PhaseEndDate	3/15/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	11/11/2022	12/31/2022
tblConstructionPhase	PhaseStartDate	3/16/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	12/24/2022	1/1/2023
tblConstructionPhase	PhaseStartDate	11/12/2022	10/1/2022
tblConstructionPhase	PhaseStartDate	2/17/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	10/29/2022	10/1/2022
tblLandUse	LandUseSquareFeet	265,690.00	265,686.00
tblLandUse	LotAcreage	6.10	17.55
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors

Northgate Industrial - Proposed - Sacramento County, Summer

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

tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperLoadFactor	0.41	0.41
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	990.00

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

tblTripsAndVMT	VendorTripNumber	44.00	49.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	112.00	120.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblVehicleTrips	ST_TR	1.74	3.37
tblVehicleTrips	SU_TR	1.74	3.37
tblVehicleTrips	WD_TR	1.74	3.37

2.0 Emissions Summary

Northgate Industrial - Proposed - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2022	2.9784	31.5325	29.8252	0.0667	2.2368	1.2703	3.5071	0.3454	1.1930	1.5384	0.0000	6,561.9217	6,561.9217	1.3663	0.1805	6,649.8538
2023	22.6657	29.9578	38.4621	0.0822	1.9665	1.3112	3.1927	0.4449	1.2576	1.6897	0.0000	8,007.2742	8,007.2742	1.1697	0.1769	8,089.2217
2024	20.3162	11.0734	16.3330	0.0322	0.3956	0.5063	0.9019	0.1049	0.4812	0.5861	0.0000	3,113.1987	3,113.1987	0.6252	8.4600e-003	3,131.3482
Maximum	**22.6657**	**31.5325**	**38.4621**	**0.0822**	**2.2368**	**1.3112**	**3.5071**	**0.4449**	**1.2576**	**1.6897**	**0.0000**	**8,007.2742**	**8,007.2742**	**1.3663**	**0.1805**	**8,089.2217**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.9784	31.5325	29.8252	0.0667	1.3619	1.2703	2.6322	0.2509	1.1930	1.4440	0.0000	6,561.9217	6,561.9217	1.3663	0.1805	6,649.8538
2023	22.6657	29.9578	38.4621	0.0822	1.6749	1.3112	2.9148	0.4320	1.2576	1.6897	0.0000	8,007.2742	8,007.2742	1.1697	0.1769	8,089.2217
2024	20.3162	11.0734	16.3330	0.0322	0.3956	0.5063	0.9019	0.1049	0.4812	0.5861	0.0000	3,113.1987	3,113.1987	0.6252	8.4600e-003	3,131.3482
Maximum	**22.6657**	**31.5325**	**38.4621**	**0.0822**	**1.6749**	**1.3112**	**2.9148**	**0.4320**	**1.2576**	**1.6897**	**0.0000**	**8,007.2742**	**8,007.2742**	**1.3663**	**0.1805**	**8,089.2217**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**25.37**	**0.00**	**15.17**	**11.99**	**0.00**	**2.48**	**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	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Energy	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Mobile	3.0829	3.1668	26.2715	0.0552	5.4912	0.0406	5.5317	1.4640	0.0379	1.5019		5,626.1430	5,626.1430	0.3355	0.2472	5,708.2011
Offroad	0.7741	11.5666	49.6547	0.0209		0.3181	0.3181		0.2966	0.2966	0.0000	2,248.6166	2,248.6166	0.7273		2,266.7978
Total	**10.2238**	**14.7686**	**75.9826**	**0.0763**	**5.4912**	**0.3615**	**5.8526**	**1.4640**	**0.3373**	**1.8013**	**0.0000**	**7,916.7794**	**7,916.7794**	**1.0637**	**0.2480**	**8,017.2719**

Northgate Industrial - Proposed - Sacramento County, Summer

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Energy	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Mobile	3.0829	3.1668	26.2715	0.0552	5.4912	0.0406	5.5317	1.4640	0.0379	1.5019		5,626.1430	5,626.1430	0.3355	0.2472	5,708.2011
Offroad	0.7741	11.5666	49.6547	0.0209		0.3181	0.3181		0.2966	0.2966	0.0000	2,248.6166	2,248.6166	0.7273		2,266.7978
Total	**10.2238**	**14.7686**	**75.9826**	**0.0763**	**5.4912**	**0.3615**	**5.8526**	**1.4640**	**0.3373**	**1.8013**	**0.0000**	**7,916.7794**	**7,916.7794**	**1.0637**	**0.2480**	**8,017.2719**

	ROG	NOx	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	Site Preparation	Site Preparation	10/1/2022	12/31/2022	5	65	
2	Grading	Grading	10/1/2022	3/31/2023	5	130	
3	Building Construction	Building Construction	1/1/2023	12/31/2023	5	260	
4	Paving	Paving	10/1/2023	3/31/2024	5	130	

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

5	Architectural Coating	Architectural Coating	10/1/2023	3/31/2024	5	130	

Acres of Grading (Site Preparation Phase): 65

Acres of Grading (Grading Phase): 65

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 398,529; Non-Residential Outdoor: 132,843; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Site Preparation	Generator Sets	1	8.00	84	0.74
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Pumps	1	8.00	84	0.74
Grading	Generator Sets	1	8.00	84	0.74
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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

Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Grading	Rollers	1	8.00	80	0.38
Grading	Skid Steer Loaders	1	8.00	65	0.37
Paving	Generator Sets	1	8.00	84	0.74
Paving	Surfacing Equipment	1	8.00	263	0.30

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
Site Preparation	5	20.00	0.00	990.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	120.00	49.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.5908	16.3028	16.9746	0.0322		0.7086	0.7086		0.6637	0.6637		3,104.0131	3,104.0131	0.8320		3,124.8131
Total	**1.5908**	**16.3028**	**16.9746**	**0.0322**	**1.0605**	**0.7086**	**1.7691**	**0.1145**	**0.6637**	**0.7782**		**3,104.0131**	**3,104.0131**	**0.8320**		**3,124.8131**

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	0.0633	2.6478	0.5199	9.9000e-003	0.2657	0.0228	0.2885	0.0728	0.0218	0.0946		1,078.8559	1,078.8559	0.0433	0.1710	1,130.9002
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	0.0724	0.0366	0.5907	1.4400e-003	0.1521	8.2000e-004	0.1530	0.0404	7.6000e-004	0.0411		145.2109	145.2109	4.3400e-003	3.7800e-003	146.4449
Total	**0.1357**	**2.6844**	**1.1106**	**0.0113**	**0.4178**	**0.0236**	**0.4414**	**0.1131**	**0.0226**	**0.1357**		**1,224.0668**	**1,224.0668**	**0.0477**	**0.1748**	**1,277.3450**

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

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4772	0.0000	0.4772	0.0515	0.0000	0.0515			0.0000			0.0000
Off-Road	1.5908	16.3028	16.9746	0.0322		0.7086	0.7086		0.6637	0.6637	0.0000	3,104.0131	3,104.0131	0.8320		3,124.8131
Total	**1.5908**	**16.3028**	**16.9746**	**0.0322**	**0.4772**	**0.7086**	**1.1858**	**0.0515**	**0.6637**	**0.7152**	**0.0000**	**3,104.0131**	**3,104.0131**	**0.8320**		**3,124.8131**

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	0.0633	2.6478	0.5199	9.9000e-003	0.2657	0.0228	0.2885	0.0728	0.0218	0.0946		1,078.8559	1,078.8559	0.0433	0.1710	1,130.9002
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	0.0724	0.0366	0.5907	1.4400e-003	0.1521	8.2000e-004	0.1530	0.0404	7.6000e-004	0.0411		145.2109	145.2109	4.3400e-003	3.7800e-003	146.4449
Total	**0.1357**	**2.6844**	**1.1106**	**0.0113**	**0.4178**	**0.0236**	**0.4414**	**0.1131**	**0.0226**	**0.1357**		**1,224.0668**	**1,224.0668**	**0.0477**	**0.1748**	**1,277.3450**

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.1432	12.4904	10.8541	0.0210		0.5368	0.5368		0.5056	0.5056		2,016.0254	2,016.0254	0.4801		2,028.0285
Total	**1.1432**	**12.4904**	**10.8541**	**0.0210**	**0.5303**	**0.5368**	**1.0671**	**0.0573**	**0.5056**	**0.5629**		**2,016.0254**	**2,016.0254**	**0.4801**		**2,028.0285**

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	0.1087	0.0549	0.8860	2.1600e-003	0.2282	1.2400e-003	0.2295	0.0605	1.1400e-003	0.0617		217.8164	217.8164	6.5100e-003	5.6700e-003	219.6673
Total	**0.1087**	**0.0549**	**0.8860**	**2.1600e-003**	**0.2282**	**1.2400e-003**	**0.2295**	**0.0605**	**1.1400e-003**	**0.0617**		**217.8164**	**217.8164**	**6.5100e-003**	**5.6700e-003**	**219.6673**

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.1432	12.4904	10.8541	0.0210		0.5368	0.5368		0.5056	0.5056	0.0000	2,016.0254	2,016.0254	0.4801		2,028.0284
Total	**1.1432**	**12.4904**	**10.8541**	**0.0210**	**0.2386**	**0.5368**	**0.7754**	**0.0258**	**0.5056**	**0.5314**	**0.0000**	**2,016.0254**	**2,016.0254**	**0.4801**		**2,028.0284**

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	0.1087	0.0549	0.8860	2.1600e-003	0.2282	1.2400e-003	0.2295	0.0605	1.1400e-003	0.0617		217.8164	217.8164	6.5100e-003	5.6700e-003	219.6673
Total	**0.1087**	**0.0549**	**0.8860**	**2.1600e-003**	**0.2282**	**1.2400e-003**	**0.2295**	**0.0605**	**1.1400e-003**	**0.0617**		**217.8164**	**217.8164**	**6.5100e-003**	**5.6700e-003**	**219.6673**

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

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0573	11.3552	10.8019	0.0210		0.4714	0.4714		0.4440	0.4440		2,016.0376	2,016.0376	0.4779		2,027.9859
Total	**1.0573**	**11.3552**	**10.8019**	**0.0210**	**0.5303**	**0.4714**	**1.0017**	**0.0573**	**0.4440**	**0.5012**		**2,016.0376**	**2,016.0376**	**0.4779**		**2,027.9859**

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	0.1010	0.0485	0.8154	2.0900e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		210.8658	210.8658	5.8600e-003	5.2400e-003	212.5748
Total	**0.1010**	**0.0485**	**0.8154**	**2.0900e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**210.8658**	**210.8658**	**5.8600e-003**	**5.2400e-003**	**212.5748**

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

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.0573	11.3552	10.8019	0.0210		0.4714	0.4714		0.4440	0.4440	0.0000	2,016.0376	2,016.0376	0.4779		2,027.9859
Total	**1.0573**	**11.3552**	**10.8019**	**0.0210**	**0.2386**	**0.4714**	**0.7101**	**0.0258**	**0.4440**	**0.4697**	**0.0000**	**2,016.0376**	**2,016.0376**	**0.4779**		**2,027.9859**

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	0.1010	0.0485	0.8154	2.0900e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		210.8658	210.8658	5.8600e-003	5.2400e-003	212.5748
Total	**0.1010**	**0.0485**	**0.8154**	**2.0900e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**210.8658**	**210.8658**	**5.8600e-003**	**5.2400e-003**	**212.5748**

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8138	15.7984	18.0777	0.0322		0.7363	0.7363		0.7104	0.7104		3,036.9109	3,036.9109	0.4917		3,049.2040
Total	**1.8138**	**15.7984**	**18.0777**	**0.0322**		**0.7363**	**0.7363**		**0.7104**	**0.7104**		**3,036.9109**	**3,036.9109**	**0.4917**		**3,049.2040**

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	0.0656	2.2689	0.7063	9.3400e-003	0.2952	0.0127	0.3079	0.0850	0.0121	0.0971		1,001.4827	1,001.4827	0.0248	0.1468	1,045.8488
Worker	0.4041	0.1942	3.2616	8.3400e-003	0.9128	4.6900e-003	0.9175	0.2421	4.3200e-003	0.2465		843.4631	843.4631	0.0234	0.0210	850.2991
Total	**0.4697**	**2.4630**	**3.9679**	**0.0177**	**1.2081**	**0.0174**	**1.2254**	**0.3271**	**0.0164**	**0.3436**		**1,844.9457**	**1,844.9457**	**0.0482**	**0.1678**	**1,896.1478**

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8138	15.7984	18.0777	0.0322		0.7363	0.7363		0.7104	0.7104	0.0000	3,036.9109	3,036.9109	0.4917		3,049.2040
Total	**1.8138**	**15.7984**	**18.0777**	**0.0322**		**0.7363**	**0.7363**		**0.7104**	**0.7104**	**0.0000**	**3,036.9109**	**3,036.9109**	**0.4917**		**3,049.2040**

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	0.0656	2.2689	0.7063	9.3400e-003	0.2952	0.0127	0.3079	0.0850	0.0121	0.0971		1,001.4827	1,001.4827	0.0248	0.1468	1,045.8488
Worker	0.4041	0.1942	3.2616	8.3400e-003	0.9128	4.6900e-003	0.9175	0.2421	4.3200e-003	0.2465		843.4631	843.4631	0.0234	0.0210	850.2991
Total	**0.4697**	**2.4630**	**3.9679**	**0.0177**	**1.2081**	**0.0174**	**1.2254**	**0.3271**	**0.0164**	**0.3436**		**1,844.9457**	**1,844.9457**	**0.0482**	**0.1678**	**1,896.1478**

Northgate Industrial - Proposed - Sacramento County, Summer

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

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0061	9.8750	12.5883	0.0248		0.4612	0.4612		0.4345	0.4345		2,384.6528	2,384.6528	0.5972		2,399.5816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0061**	**9.8750**	**12.5883**	**0.0248**		**0.4612**	**0.4612**		**0.4345**	**0.4345**		**2,384.6528**	**2,384.6528**	**0.5972**		**2,399.5816**

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	0.1010	0.0485	0.8154	2.0900e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		210.8658	210.8658	5.8600e-003	5.2400e-003	212.5748
Total	**0.1010**	**0.0485**	**0.8154**	**2.0900e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**210.8658**	**210.8658**	**5.8600e-003**	**5.2400e-003**	**212.5748**

Northgate Industrial - Proposed - Sacramento County, Summer

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

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0061	9.8750	12.5883	0.0248		0.4612	0.4612		0.4345	0.4345	0.0000	2,384.6528	2,384.6528	0.5972		2,399.5816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0061**	**9.8750**	**12.5883**	**0.0248**		**0.4612**	**0.4612**		**0.4345**	**0.4345**	**0.0000**	**2,384.6528**	**2,384.6528**	**0.5972**		**2,399.5816**

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	0.1010	0.0485	0.8154	2.0900e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		210.8658	210.8658	5.8600e-003	5.2400e-003	212.5748
Total	**0.1010**	**0.0485**	**0.8154**	**2.0900e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**210.8658**	**210.8658**	**5.8600e-003**	**5.2400e-003**	**212.5748**

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

3.5 Paving - 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	0.9662	9.3734	12.6098	0.0248		0.4232	0.4232		0.3982	0.3982		2,384.4630	2,384.4630	0.5949		2,399.3355
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9662**	**9.3734**	**12.6098**	**0.0248**		**0.4232**	**0.4232**		**0.3982**	**0.3982**		**2,384.4630**	**2,384.4630**	**0.5949**		**2,399.3355**

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	0.0943	0.0432	0.7556	2.0200e-003	0.2282	1.1100e-003	0.2293	0.0605	1.0300e-003	0.0616		203.9259	203.9259	5.2900e-003	4.8800e-003	205.5118
Total	**0.0943**	**0.0432**	**0.7556**	**2.0200e-003**	**0.2282**	**1.1100e-003**	**0.2293**	**0.0605**	**1.0300e-003**	**0.0616**		**203.9259**	**203.9259**	**5.2900e-003**	**4.8800e-003**	**205.5118**

Northgate Industrial - Proposed - Sacramento County, Summer

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

3.5 Paving - 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	0.9662	9.3734	12.6098	0.0248		0.4232	0.4232		0.3982	0.3982	0.0000	2,384.4630	2,384.4630	0.5949		2,399.3355
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9662**	**9.3734**	**12.6098**	**0.0248**		**0.4232**	**0.4232**		**0.3982**	**0.3982**	**0.0000**	**2,384.4630**	**2,384.4630**	**0.5949**		**2,399.3355**

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	0.0943	0.0432	0.7556	2.0200e-003	0.2282	1.1100e-003	0.2293	0.0605	1.0300e-003	0.0616		203.9259	203.9259	5.2900e-003	4.8800e-003	205.5118
Total	**0.0943**	**0.0432**	**0.7556**	**2.0200e-003**	**0.2282**	**1.1100e-003**	**0.2293**	**0.0605**	**1.0300e-003**	**0.0616**		**203.9259**	**203.9259**	**5.2900e-003**	**4.8800e-003**	**205.5118**

Northgate Industrial - Proposed - Sacramento County, Summer

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	**19.2010**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**		**375.2641**	**375.2641**	**0.0225**		**375.8253**

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	0.0741	0.0356	0.5980	1.5300e-003	0.1674	8.6000e-004	0.1682	0.0444	7.9000e-004	0.0452		154.6349	154.6349	4.3000e-003	3.8500e-003	155.8882
Total	**0.0741**	**0.0356**	**0.5980**	**1.5300e-003**	**0.1674**	**8.6000e-004**	**0.1682**	**0.0444**	**7.9000e-004**	**0.0452**		**154.6349**	**154.6349**	**4.3000e-003**	**3.8500e-003**	**155.8882**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	**19.2010**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**	**0.0000**	**375.2641**	**375.2641**	**0.0225**		**375.8253**

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	0.0741	0.0356	0.5980	1.5300e-003	0.1674	8.6000e-004	0.1682	0.0444	7.9000e-004	0.0452		154.6349	154.6349	4.3000e-003	3.8500e-003	155.8882
Total	**0.0741**	**0.0356**	**0.5980**	**1.5300e-003**	**0.1674**	**8.6000e-004**	**0.1682**	**0.0444**	**7.9000e-004**	**0.0452**		**154.6349**	**154.6349**	**4.3000e-003**	**3.8500e-003**	**155.8882**

Northgate Industrial - Proposed - Sacramento County, Summer

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

3.6 Architectural Coating - 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					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**19.1865**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

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	0.0692	0.0317	0.5541	1.4800e-003	0.1674	8.2000e-004	0.1682	0.0444	7.5000e-004	0.0451		149.5457	149.5457	3.8800e-003	3.5800e-003	150.7087
Total	**0.0692**	**0.0317**	**0.5541**	**1.4800e-003**	**0.1674**	**8.2000e-004**	**0.1682**	**0.0444**	**7.5000e-004**	**0.0451**		**149.5457**	**149.5457**	**3.8800e-003**	**3.5800e-003**	**150.7087**

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

3.6 Architectural Coating - 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					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**19.1865**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

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	0.0692	0.0317	0.5541	1.4800e-003	0.1674	8.2000e-004	0.1682	0.0444	7.5000e-004	0.0451		149.5457	149.5457	3.8800e-003	3.5800e-003	150.7087
Total	**0.0692**	**0.0317**	**0.5541**	**1.4800e-003**	**0.1674**	**8.2000e-004**	**0.1682**	**0.0444**	**7.5000e-004**	**0.0451**		**149.5457**	**149.5457**	**3.8800e-003**	**3.5800e-003**	**150.7087**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0829	3.1668	26.2715	0.0552	5.4912	0.0406	5.5317	1.4640	0.0379	1.5019		5,626.1430	5,626.1430	0.3355	0.2472	5,708.2011
Unmitigated	3.0829	3.1668	26.2715	0.0552	5.4912	0.0406	5.5317	1.4640	0.0379	1.5019		5,626.1430	5,626.1430	0.3355	0.2472	5,708.2011

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	895.38	895.38	895.38	2,604,029	2,604,029
Total	895.38	895.38	895.38	2,604,029	2,604,029

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
Unrefrigerated Warehouse-No	10.00	5.00	6.50	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.542485	0.056811	0.183752	0.130945	0.025591	0.005989	0.013266	0.009393	0.000917	0.000565	0.025954	0.000983	0.003351

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

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	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
NaturalGas Unmitigated	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111

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					
Unrefrigerated Warehouse-No Rail	356.674	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Total		**3.8500e-003**	**0.0350**	**0.0294**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**		**41.9617**	**41.9617**	**8.0000e-004**	**7.7000e-004**	**42.2111**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Unrefrigerated Warehouse-No Rail	0.356674	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Total		**3.8500e-003**	**0.0350**	**0.0294**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**		**41.9617**	**41.9617**	**8.0000e-004**	**7.7000e-004**	**42.2111**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Unmitigated	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619

Northgate Industrial - Proposed - Sacramento County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-003	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Total	**6.3630**	**2.5000e-004**	**0.0271**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0582**	**0.0582**	**1.5000e-004**		**0.0619**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.6748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-003	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Total	**6.3630**	**2.5000e-004**	**0.0271**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0582**	**0.0582**	**1.5000e-004**		**0.0619**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	5	8.00	365	89	0.20	CNG
Graders	2	8.00	365	187	0.41	Diesel

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

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					
Forklifts	0.0672	3.2816	46.3523	7.6800e-003		0.0495	0.0495		0.0495	0.0495	0.0000	971.6634	971.6634	0.3143		979.5198
Graders	0.7069	8.2851	3.3024	0.0132		0.2687	0.2687		0.2472	0.2472	0.0000	1,276.9532	1,276.9532	0.4130		1,287.2780
Total	**0.7741**	**11.5666**	**49.6547**	**0.0209**		**0.3181**	**0.3181**		**0.2966**	**0.2966**	**0.0000**	**2,248.6166**	**2,248.6166**	**0.7273**		**2,266.7978**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Northgate Industrial - Proposed

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	265.69	1000sqft	17.55	265,686.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	374.84	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From PD

Construction Phase - Project data. Added Architectural Coatings phase conservatively assumed to be concurrent with paving

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Project Data

Off-road Equipment - Assumed

Grading -

Trips and VMT - Project specific worker trips available, vendor trip default for building construction adjusted to include concrete delivery, site preparation trips include parking lot demo trips

Vehicle Trips - From Project Traffic Study

Northgate Industrial - Proposed - Sacramento County, Winter

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

Operational Off-Road Equipment - Equipment assumed based on similar project

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	PhaseEndDate	4/12/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	2/16/2024	12/31/2023
tblConstructionPhase	PhaseEndDate	12/23/2022	3/31/2023
tblConstructionPhase	PhaseEndDate	3/15/2024	3/31/2024
tblConstructionPhase	PhaseEndDate	11/11/2022	12/31/2022
tblConstructionPhase	PhaseStartDate	3/16/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	12/24/2022	1/1/2023
tblConstructionPhase	PhaseStartDate	11/12/2022	10/1/2022
tblConstructionPhase	PhaseStartDate	2/17/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	10/29/2022	10/1/2022
tblLandUse	LandUseSquareFeet	265,690.00	265,686.00
tblLandUse	LotAcreage	6.10	17.55
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors

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

tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperLoadFactor	0.41	0.41
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	990.00

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

tblTripsAndVMT	VendorTripNumber	44.00	49.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	112.00	120.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblVehicleTrips	ST_TR	1.74	3.37
tblVehicleTrips	SU_TR	1.74	3.37
tblVehicleTrips	WD_TR	1.74	3.37

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2022	2.9556	31.7657	29.6384	0.0663	2.2368	1.2704	3.5071	0.3454	1.1931	1.5385	0.0000	6,521.8529	6,521.8529	1.3678	0.1819	6,610.2477
2023	22.5973	30.1906	37.8909	0.0809	1.9665	1.3114	3.1929	0.4449	1.2578	1.6898	0.0000	7,874.4470	7,874.4470	1.1747	0.1816	7,957.9401
2024	20.2978	11.0903	16.1694	0.0319	0.3956	0.5063	0.9019	0.1049	0.4812	0.5861	0.0000	3,074.2582	3,074.2582	0.6267	9.6900e-003	3,092.8124
Maximum	**22.5973**	**31.7657**	**37.8909**	**0.0809**	**2.2368**	**1.3114**	**3.5071**	**0.4449**	**1.2578**	**1.6898**	**0.0000**	**7,874.4470**	**7,874.4470**	**1.3678**	**0.1819**	**7,957.9401**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.9556	31.7657	29.6384	0.0663	1.3619	1.2704	2.6322	0.2509	1.1931	1.4440	0.0000	6,521.8529	6,521.8529	1.3678	0.1819	6,610.2477
2023	22.5973	30.1906	37.8909	0.0809	1.6749	1.3114	2.9150	0.4320	1.2578	1.6898	0.0000	7,874.4470	7,874.4470	1.1747	0.1816	7,957.9401
2024	20.2978	11.0903	16.1694	0.0319	0.3956	0.5063	0.9019	0.1049	0.4812	0.5861	0.0000	3,074.2582	3,074.2582	0.6267	9.6900e-003	3,092.8124
Maximum	**22.5973**	**31.7657**	**37.8909**	**0.0809**	**1.6749**	**1.3114**	**2.9150**	**0.4320**	**1.2578**	**1.6898**	**0.0000**	**7,874.4470**	**7,874.4470**	**1.3678**	**0.1819**	**7,957.9401**

Northgate Industrial - Proposed - Sacramento County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**25.37**	**0.00**	**15.16**	**11.99**	**0.00**	**2.48**	**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	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Energy	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Mobile	2.4586	3.6672	25.6644	0.0504	5.4912	0.0406	5.5318	1.4640	0.0380	1.5019		5,144.4281	5,144.4281	0.3751	0.2699	5,234.2397
Offroad	0.7741	11.5666	49.6547	0.0209		0.3181	0.3181		0.2966	0.2966	0.0000	2,248.6166	2,248.6166	0.7273		2,266.7978
Total	**9.5995**	**15.2690**	**75.3755**	**0.0715**	**5.4912**	**0.3615**	**5.8527**	**1.4640**	**0.3374**	**1.8013**	**0.0000**	**7,435.0645**	**7,435.0645**	**1.1033**	**0.2707**	**7,543.3105**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Energy	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Mobile	2.4586	3.6672	25.6644	0.0504	5.4912	0.0406	5.5318	1.4640	0.0380	1.5019		5,144.4281	5,144.4281	0.3751	0.2699	5,234.2397
Offroad	0.7741	11.5666	49.6547	0.0209		0.3181	0.3181		0.2966	0.2966	0.0000	2,248.6166	2,248.6166	0.7273		2,266.7978
Total	**9.5995**	**15.2690**	**75.3755**	**0.0715**	**5.4912**	**0.3615**	**5.8527**	**1.4640**	**0.3374**	**1.8013**	**0.0000**	**7,435.0645**	**7,435.0645**	**1.1033**	**0.2707**	**7,543.3105**

	ROG	NOx	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	Site Preparation	Site Preparation	10/1/2022	12/31/2022	5	65	
2	Grading	Grading	10/1/2022	3/31/2023	5	130	
3	Building Construction	Building Construction	1/1/2023	12/31/2023	5	260	
4	Paving	Paving	10/1/2023	3/31/2024	5	130	

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

5	Architectural Coating	Architectural Coating	10/1/2023	3/31/2024	5	130	

Acres of Grading (Site Preparation Phase): 65

Acres of Grading (Grading Phase): 65

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 398,529; Non-Residential Outdoor: 132,843; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Site Preparation	Generator Sets	1	8.00	84	0.74
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Pumps	1	8.00	84	0.74
Grading	Generator Sets	1	8.00	84	0.74
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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

Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Grading	Rollers	1	8.00	80	0.38
Grading	Skid Steer Loaders	1	8.00	65	0.37
Paving	Generator Sets	1	8.00	84	0.74
Paving	Surfacing Equipment	1	8.00	263	0.30

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
Site Preparation	5	20.00	0.00	990.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	120.00	49.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.5908	16.3028	16.9746	0.0322		0.7086	0.7086		0.6637	0.6637		3,104.0131	3,104.0131	0.8320		3,124.8131
Total	**1.5908**	**16.3028**	**16.9746**	**0.0322**	**1.0605**	**0.7086**	**1.7691**	**0.1145**	**0.6637**	**0.7782**		**3,104.0131**	**3,104.0131**	**0.8320**		**3,124.8131**

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	0.0616	2.8602	0.5306	9.9000e-003	0.2657	0.0229	0.2886	0.0728	0.0219	0.0947		1,079.0113	1,079.0113	0.0432	0.1710	1,131.0634
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	0.0640	0.0449	0.5117	1.2800e-003	0.1521	8.2000e-004	0.1530	0.0404	7.6000e-004	0.0411		129.1212	129.1212	4.9700e-003	4.3300e-003	130.5371
Total	**0.1256**	**2.9051**	**1.0423**	**0.0112**	**0.4178**	**0.0237**	**0.4415**	**0.1131**	**0.0227**	**0.1358**		**1,208.1325**	**1,208.1325**	**0.0482**	**0.1754**	**1,261.6005**

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

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4772	0.0000	0.4772	0.0515	0.0000	0.0515			0.0000			0.0000
Off-Road	1.5908	16.3028	16.9746	0.0322		0.7086	0.7086		0.6637	0.6637	0.0000	3,104.0131	3,104.0131	0.8320		3,124.8131
Total	**1.5908**	**16.3028**	**16.9746**	**0.0322**	**0.4772**	**0.7086**	**1.1858**	**0.0515**	**0.6637**	**0.7152**	**0.0000**	**3,104.0131**	**3,104.0131**	**0.8320**		**3,124.8131**

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	0.0616	2.8602	0.5306	9.9000e-003	0.2657	0.0229	0.2886	0.0728	0.0219	0.0947		1,079.0113	1,079.0113	0.0432	0.1710	1,131.0634
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	0.0640	0.0449	0.5117	1.2800e-003	0.1521	8.2000e-004	0.1530	0.0404	7.6000e-004	0.0411		129.1212	129.1212	4.9700e-003	4.3300e-003	130.5371
Total	**0.1256**	**2.9051**	**1.0423**	**0.0112**	**0.4178**	**0.0237**	**0.4415**	**0.1131**	**0.0227**	**0.1358**		**1,208.1325**	**1,208.1325**	**0.0482**	**0.1754**	**1,261.6005**

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.1432	12.4904	10.8541	0.0210		0.5368	0.5368		0.5056	0.5056		2,016.0254	2,016.0254	0.4801		2,028.0285
Total	**1.1432**	**12.4904**	**10.8541**	**0.0210**	**0.5303**	**0.5368**	**1.0671**	**0.0573**	**0.5056**	**0.5629**		**2,016.0254**	**2,016.0254**	**0.4801**		**2,028.0285**

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	0.0960	0.0674	0.7675	1.9200e-003	0.2282	1.2400e-003	0.2295	0.0605	1.1400e-003	0.0617		193.6819	193.6819	7.4500e-003	6.5000e-003	195.8057
Total	**0.0960**	**0.0674**	**0.7675**	**1.9200e-003**	**0.2282**	**1.2400e-003**	**0.2295**	**0.0605**	**1.1400e-003**	**0.0617**		**193.6819**	**193.6819**	**7.4500e-003**	**6.5000e-003**	**195.8057**

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.1432	12.4904	10.8541	0.0210		0.5368	0.5368		0.5056	0.5056	0.0000	2,016.0254	2,016.0254	0.4801		2,028.0284
Total	**1.1432**	**12.4904**	**10.8541**	**0.0210**	**0.2386**	**0.5368**	**0.7754**	**0.0258**	**0.5056**	**0.5314**	**0.0000**	**2,016.0254**	**2,016.0254**	**0.4801**		**2,028.0284**

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	0.0960	0.0674	0.7675	1.9200e-003	0.2282	1.2400e-003	0.2295	0.0605	1.1400e-003	0.0617		193.6819	193.6819	7.4500e-003	6.5000e-003	195.8057
Total	**0.0960**	**0.0674**	**0.7675**	**1.9200e-003**	**0.2282**	**1.2400e-003**	**0.2295**	**0.0605**	**1.1400e-003**	**0.0617**		**193.6819**	**193.6819**	**7.4500e-003**	**6.5000e-003**	**195.8057**

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

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0573	11.3552	10.8019	0.0210		0.4714	0.4714		0.4440	0.4440		2,016.0376	2,016.0376	0.4779		2,027.9859
Total	**1.0573**	**11.3552**	**10.8019**	**0.0210**	**0.5303**	**0.4714**	**1.0017**	**0.0573**	**0.4440**	**0.5012**		**2,016.0376**	**2,016.0376**	**0.4779**		**2,027.9859**

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	0.0895	0.0596	0.7102	1.8600e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		187.5730	187.5730	6.7500e-003	6.0100e-003	189.5338
Total	**0.0895**	**0.0596**	**0.7102**	**1.8600e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**187.5730**	**187.5730**	**6.7500e-003**	**6.0100e-003**	**189.5338**

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

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.0573	11.3552	10.8019	0.0210		0.4714	0.4714		0.4440	0.4440	0.0000	2,016.0376	2,016.0376	0.4779		2,027.9859
Total	**1.0573**	**11.3552**	**10.8019**	**0.0210**	**0.2386**	**0.4714**	**0.7101**	**0.0258**	**0.4440**	**0.4697**	**0.0000**	**2,016.0376**	**2,016.0376**	**0.4779**		**2,027.9859**

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	0.0895	0.0596	0.7102	1.8600e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		187.5730	187.5730	6.7500e-003	6.0100e-003	189.5338
Total	**0.0895**	**0.0596**	**0.7102**	**1.8600e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**187.5730**	**187.5730**	**6.7500e-003**	**6.0100e-003**	**189.5338**

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8138	15.7984	18.0777	0.0322		0.7363	0.7363		0.7104	0.7104		3,036.9109	3,036.9109	0.4917		3,049.2040
Total	**1.8138**	**15.7984**	**18.0777**	**0.0322**		**0.7363**	**0.7363**		**0.7104**	**0.7104**		**3,036.9109**	**3,036.9109**	**0.4917**		**3,049.2040**

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	0.0634	2.4385	0.7385	9.3400e-003	0.2952	0.0128	0.3080	0.0850	0.0123	0.0972		1,002.2004	1,002.2004	0.0246	0.1472	1,046.6686
Worker	0.3579	0.2382	2.8406	7.4200e-003	0.9128	4.6900e-003	0.9175	0.2421	4.3200e-003	0.2465		750.2922	750.2922	0.0270	0.0241	758.1353
Total	**0.4213**	**2.6768**	**3.5791**	**0.0168**	**1.2081**	**0.0175**	**1.2256**	**0.3271**	**0.0166**	**0.3437**		**1,752.4926**	**1,752.4926**	**0.0516**	**0.1712**	**1,804.8038**

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8138	15.7984	18.0777	0.0322		0.7363	0.7363		0.7104	0.7104	0.0000	3,036.9109	3,036.9109	0.4917		3,049.2040
Total	**1.8138**	**15.7984**	**18.0777**	**0.0322**		**0.7363**	**0.7363**		**0.7104**	**0.7104**	**0.0000**	**3,036.9109**	**3,036.9109**	**0.4917**		**3,049.2040**

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	0.0634	2.4385	0.7385	9.3400e-003	0.2952	0.0128	0.3080	0.0850	0.0123	0.0972		1,002.2004	1,002.2004	0.0246	0.1472	1,046.6686
Worker	0.3579	0.2382	2.8406	7.4200e-003	0.9128	4.6900e-003	0.9175	0.2421	4.3200e-003	0.2465		750.2922	750.2922	0.0270	0.0241	758.1353
Total	**0.4213**	**2.6768**	**3.5791**	**0.0168**	**1.2081**	**0.0175**	**1.2256**	**0.3271**	**0.0166**	**0.3437**		**1,752.4926**	**1,752.4926**	**0.0516**	**0.1712**	**1,804.8038**

Northgate Industrial - Proposed - Sacramento County, Winter

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

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0061	9.8750	12.5883	0.0248		0.4612	0.4612		0.4345	0.4345		2,384.6528	2,384.6528	0.5972		2,399.5816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0061**	**9.8750**	**12.5883**	**0.0248**		**0.4612**	**0.4612**		**0.4345**	**0.4345**		**2,384.6528**	**2,384.6528**	**0.5972**		**2,399.5816**

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	0.0895	0.0596	0.7102	1.8600e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		187.5730	187.5730	6.7500e-003	6.0100e-003	189.5338
Total	**0.0895**	**0.0596**	**0.7102**	**1.8600e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**187.5730**	**187.5730**	**6.7500e-003**	**6.0100e-003**	**189.5338**

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

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0061	9.8750	12.5883	0.0248		0.4612	0.4612		0.4345	0.4345	0.0000	2,384.6528	2,384.6528	0.5972		2,399.5816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0061**	**9.8750**	**12.5883**	**0.0248**		**0.4612**	**0.4612**		**0.4345**	**0.4345**	**0.0000**	**2,384.6528**	**2,384.6528**	**0.5972**		**2,399.5816**

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	0.0895	0.0596	0.7102	1.8600e-003	0.2282	1.1700e-003	0.2294	0.0605	1.0800e-003	0.0616		187.5730	187.5730	6.7500e-003	6.0100e-003	189.5338
Total	**0.0895**	**0.0596**	**0.7102**	**1.8600e-003**	**0.2282**	**1.1700e-003**	**0.2294**	**0.0605**	**1.0800e-003**	**0.0616**		**187.5730**	**187.5730**	**6.7500e-003**	**6.0100e-003**	**189.5338**

Northgate Industrial - Proposed - Sacramento County, Winter

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

3.5 Paving - 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	0.9662	9.3734	12.6098	0.0248		0.4232	0.4232		0.3982	0.3982		2,384.4630	2,384.4630	0.5949		2,399.3355
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9662**	**9.3734**	**12.6098**	**0.0248**		**0.4232**	**0.4232**		**0.3982**	**0.3982**		**2,384.4630**	**2,384.4630**	**0.5949**		**2,399.3355**

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	0.0837	0.0530	0.6612	1.8000e-003	0.2282	1.1100e-003	0.2293	0.0605	1.0300e-003	0.0616		181.4603	181.4603	6.1300e-003	5.5900e-003	183.2796
Total	**0.0837**	**0.0530**	**0.6612**	**1.8000e-003**	**0.2282**	**1.1100e-003**	**0.2293**	**0.0605**	**1.0300e-003**	**0.0616**		**181.4603**	**181.4603**	**6.1300e-003**	**5.5900e-003**	**183.2796**

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

3.5 Paving - 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	0.9662	9.3734	12.6098	0.0248		0.4232	0.4232		0.3982	0.3982	0.0000	2,384.4630	2,384.4630	0.5949		2,399.3355
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9662**	**9.3734**	**12.6098**	**0.0248**		**0.4232**	**0.4232**		**0.3982**	**0.3982**	**0.0000**	**2,384.4630**	**2,384.4630**	**0.5949**		**2,399.3355**

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	0.0837	0.0530	0.6612	1.8000e-003	0.2282	1.1100e-003	0.2293	0.0605	1.0300e-003	0.0616		181.4603	181.4603	6.1300e-003	5.5900e-003	183.2796
Total	**0.0837**	**0.0530**	**0.6612**	**1.8000e-003**	**0.2282**	**1.1100e-003**	**0.2293**	**0.0605**	**1.0300e-003**	**0.0616**		**181.4603**	**181.4603**	**6.1300e-003**	**5.5900e-003**	**183.2796**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	**19.2010**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**		**375.2641**	**375.2641**	**0.0225**		**375.8253**

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	0.0656	0.0437	0.5208	1.3600e-003	0.1674	8.6000e-004	0.1682	0.0444	7.9000e-004	0.0452		137.5536	137.5536	4.9500e-003	4.4100e-003	138.9915
Total	**0.0656**	**0.0437**	**0.5208**	**1.3600e-003**	**0.1674**	**8.6000e-004**	**0.1682**	**0.0444**	**7.9000e-004**	**0.0452**		**137.5536**	**137.5536**	**4.9500e-003**	**4.4100e-003**	**138.9915**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	**19.2010**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**	**0.0000**	**375.2641**	**375.2641**	**0.0225**		**375.8253**

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	0.0656	0.0437	0.5208	1.3600e-003	0.1674	8.6000e-004	0.1682	0.0444	7.9000e-004	0.0452		137.5536	137.5536	4.9500e-003	4.4100e-003	138.9915
Total	**0.0656**	**0.0437**	**0.5208**	**1.3600e-003**	**0.1674**	**8.6000e-004**	**0.1682**	**0.0444**	**7.9000e-004**	**0.0452**		**137.5536**	**137.5536**	**4.9500e-003**	**4.4100e-003**	**138.9915**

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

3.6 Architectural Coating - 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					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**19.1865**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

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	0.0614	0.0389	0.4849	1.3200e-003	0.1674	8.2000e-004	0.1682	0.0444	7.5000e-004	0.0451		133.0709	133.0709	4.4900e-003	4.1000e-003	134.4050
Total	**0.0614**	**0.0389**	**0.4849**	**1.3200e-003**	**0.1674**	**8.2000e-004**	**0.1682**	**0.0444**	**7.5000e-004**	**0.0451**		**133.0709**	**133.0709**	**4.4900e-003**	**4.1000e-003**	**134.4050**

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

3.6 Architectural Coating - 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					
Archit. Coating	18.9455					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**19.1865**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

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	0.0614	0.0389	0.4849	1.3200e-003	0.1674	8.2000e-004	0.1682	0.0444	7.5000e-004	0.0451		133.0709	133.0709	4.4900e-003	4.1000e-003	134.4050
Total	**0.0614**	**0.0389**	**0.4849**	**1.3200e-003**	**0.1674**	**8.2000e-004**	**0.1682**	**0.0444**	**7.5000e-004**	**0.0451**		**133.0709**	**133.0709**	**4.4900e-003**	**4.1000e-003**	**134.4050**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.4586	3.6672	25.6644	0.0504	5.4912	0.0406	5.5318	1.4640	0.0380	1.5019		5,144.4281	5,144.4281	0.3751	0.2699	5,234.2397
Unmitigated	2.4586	3.6672	25.6644	0.0504	5.4912	0.0406	5.5318	1.4640	0.0380	1.5019		5,144.4281	5,144.4281	0.3751	0.2699	5,234.2397

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	895.38	895.38	895.38	2,604,029	2,604,029
Total	895.38	895.38	895.38	2,604,029	2,604,029

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
Unrefrigerated Warehouse-No	10.00	5.00	6.50	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.542485	0.056811	0.183752	0.130945	0.025591	0.005989	0.013266	0.009393	0.000917	0.000565	0.025954	0.000983	0.003351

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

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	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
NaturalGas Unmitigated	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111

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					
Unrefrigerated Warehouse-No Rail	356.674	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Total		**3.8500e-003**	**0.0350**	**0.0294**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**		**41.9617**	**41.9617**	**8.0000e-004**	**7.7000e-004**	**42.2111**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Unrefrigerated Warehouse-No Rail	0.356674	3.8500e-003	0.0350	0.0294	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003		41.9617	41.9617	8.0000e-004	7.7000e-004	42.2111
Total		**3.8500e-003**	**0.0350**	**0.0294**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**		**41.9617**	**41.9617**	**8.0000e-004**	**7.7000e-004**	**42.2111**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Unmitigated	6.3630	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-003	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Total	**6.3630**	**2.5000e-004**	**0.0271**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0582**	**0.0582**	**1.5000e-004**		**0.0619**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.6748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-003	2.5000e-004	0.0271	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0582	0.0582	1.5000e-004		0.0619
Total	**6.3630**	**2.5000e-004**	**0.0271**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0582**	**0.0582**	**1.5000e-004**		**0.0619**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	5	8.00	365	89	0.20	CNG
Graders	2	8.00	365	187	0.41	Diesel

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

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					
Forklifts	0.0672	3.2816	46.3523	7.6800e-003		0.0495	0.0495		0.0495	0.0495	0.0000	971.6634	971.6634	0.3143		979.5198
Graders	0.7069	8.2851	3.3024	0.0132		0.2687	0.2687		0.2472	0.2472	0.0000	1,276.9532	1,276.9532	0.4130		1,287.2780
Total	**0.7741**	**11.5666**	**49.6547**	**0.0209**		**0.3181**	**0.3181**		**0.2966**	**0.2966**	**0.0000**	**2,248.6166**	**2,248.6166**	**0.7273**		**2,266.7978**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation