

COMMENT LETTER FROM CALIFORNIA DEPARTMENT OF WATER RESOURCES

DEPARTMENT OF WATER RESOURCES

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SACRAMENTO, CA 94236-0001
(916) 653-5791



March 11, 2020

Ryan Leonard
Senior Planner
City of Hesperia Development Services Department
9700 Seventh Avenue
Hesperia, California 92345
leonard@cityofhesperia.us

SCH# 2020029035 Proposed Commercial Development Initial Study/Mitigated Negative Declaration (IS/MND)

Dear Mr. Leonard,

The California Department of Water Resources (DWR) State Water Project's Division of Operations and Maintenance (O&M) staff has reviewed the IS/MND for the Proposed Commercial Development (Project). DWR has the following comments:

Project Description

The Project is a proposed commercial development which consists of a 123,748 square-foot industrial building and an 8,865 square-foot office building on 8.2 acres within a 9.5-acre gross (comprised of two parcels; grading; parking lot paving; sidewalk improvements; and a 0.1-acre vegetated swale) located at the southwest corner of Highway 395 and Poplar Street. The Project includes a lot-line adjustment which would result in a separate 1.26-acre parcel in the northwest portion of one lot. The Project is approximately 1.5 miles southwest and upslope of the California Aqueduct (Aqueduct), a component of the State Water Project (SWP).

General Comments

The purpose of an Initial Study is to provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment. The lead agency needs to provide a brief explanation for all answers except "No Impact" answers. A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards. The IS/MND does not provide adequate documentation of the factual basis for the finding of no impacts to Hydrology and Water Quality impacts.

Specific Comments

We request the following comments be addressed:

IX Hydrology and Water Quality

The IS/MND explains the Project may change absorption rates and potential drainage patterns, and the amount of surface water runoff. To address these potential Project impacts, the Project includes an approved drainage system to be designed in accordance with the City of Hesperia Resolution 89-16. The existing runoff, generated under the equivalent of a no project alternative, would continue to discharge onto the surrounding streets. To comply with The City's requirement of an on-site stormwater detention and/or retention facilities for all additional drainage created by the development within the Project, a drainage system on the northwest side of the property and an on-site swale located at the southwest corner of Highway 395 and Poplar Street is included in the design. The drainage system would prevent impacting downstream properties. The on-site 0.1-acre vegetated swale would capture Project storm-water runoff.

The IS/MND does not provide adequate information for a person to understand the basis of the no impacts conclusions in the Project's hydrology impacts checklist. The City is aware of DWR's ongoing concerns related to the existing and growing unattenuated stormwater runoff in Hesperia due to development. DWR has advised the City consistently over many years that any project which contributes unattenuated stormwater runoff towards the Aqueduct culvert at milepost 394.5 may significantly impact SWP operations, either individually or cumulatively with other development projects. The IS/MND does not contain adequate information as to how the design features would capture the Project's unattenuated stormwater runoff that would otherwise flow to the Aqueduct's milepost 394.5.

Under CEQA, an IS/MND is not required to provide detailed analysis of the proposed Project's impacts. We are not requesting the IS/MND include a detailed hydrology impact analysis, but rather we request the IS/MND provide additional information which explains generally how the Project design does not create off-site run-off. To that end, DWR requests the IS/MND provide additional information on the Project's proposed, approved drainage system design and other components of the Project's design capacity for surface water runoff. Based on the information provided in the IS/MND, DWR understands the 0.1-acre vegetation swale is the Project's detention basin. DWR requests the IS/MND provide additional information to confirm the purpose and to show the adequacy of the 0.1-acre vegetation swale to capture the Project's stormwater run-off, if it is indeed the Project's detention basin.

Further, DWR is concerned about the Project's potential impacts to the Oro Grande Wash. The Project may increase peak runoff rates and sedimentation impacts in Oro Grande Wash which may, either individually or cumulatively with other development projects, result in substantial erosion and siltation impacts at the Aqueduct's culvert at milepost 394. Any potential erosion and siltation impacts to the Aqueduct at milepost 394 caused by the Project may impact the functioning of the Aqueduct and SWP general operations. We request the IS/MND identify clearly any Project stormwater detention and drainage system which attenuate peak runoff rates and reduce/eliminate

Ryan Leonard
March 11, 2020
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drainage and sedimentation impacts in Oro Grande Wash and explain briefly how that project feature attenuates peak runoff rates and reduces/eliminates drainage and sedimentation impacts. If the IS/MND relies upon information included in the September 11, 2019 Preliminary Hydrology Study prepared by Omnia Development Services for its finding of no impacts in section IX c, d and e, DWR requests that, at a minimum, a summary of that information be included in the IS/MND.

If you have any questions, please contact Scott Williams by electronic mail at scott.williams@water.ca.gov. Please provide DWR with a copy of any project documents when available by mail to:

Leroy Ellinghouse, Chief
SWP Right-of-Way management
Section Division of Operations
and Maintenance Department of
Water Resources
1416 Ninth Street, Room 641-1
Sacramento, California 95814

Sincerely,

Casey Pancaro
Staff Attorney

COMMENT LETTER FROM CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



March 13, 2020
Sent via email

Ryan Leonard
AICP, Senior Planner
City of Hesperia Development Services Dept.
9700 Seventh Ave.
Hesperia, CA 92345

SITE PLAN REVIEW (SPR19-00015) (PROJECT)
MITIGATED NEGATIVE DECLARATION (MND)
SCH# 2020029035

Dear Mr. Leonard:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from City of Hesperia for the Project (or Project Area) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines¹.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802.) Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: Steeno Design Studio

Objective: The objective of the Project is to construct a 123,748 square foot manufacturing/industrial building and 865 square foot administrative office building. Primary Project activities include construction of the buildings, parking, landscaping, and sidewalk improvements resulting in development of approximately 8.2 acres of habitat.

Location: City of Hesperia, San Bernardino County, southeast corner of Highway 395 and Popular Street, 34.414743°, -117.398229°

Timeframe: Unknown

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist City of Hesperia in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document. Based on the Project's avoidance of significant impacts on biological resources with implementation of mitigation measures, including those CDFW recommends in Attachment A, CDFW concludes that a Mitigated Negative Declaration is appropriate for the Project.

I. Mitigation Measure and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

COMMENT 1: Mitigation Measure 1

Page 2 of MND

Issue: CDFW appreciates City of Hesperia conditioned the environmental document to require pre-construction surveys for burrowing owls, a Species of Special Concern. However, the City did not provide any additional avoidance, minimization,

and mitigation measures to reduce significant impacts to burrowing owls should the pre-construction survey confirm presence.

Specific impact: Burrowing owls have been documented in the area (CNNDB, 2020). The Project and Project-related activities have potential to take burrowing owl individuals and their nests and may result in loss of burrowing owl habitat.

Why impact would occur: Potentially significant impacts to burrowing owls are not mitigated to the extent feasible.

Evidence impact would be significant: Take of individual burrowing owls and their nests is defined by FGC section 86, and prohibited by sections 3503, 3503.5 and 3513. Take is defined in FGC Section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Burrowing owls are dependent on burrows at all times of the year for survival and/or reproduction, evicting them from nesting, roosting, and satellite burrows may lead to indirect impacts or take. Temporary or permanent closure of burrows may result in significant loss of burrows and habitat for reproduction and other life history requirements. Depending on the proximity and availability of alternate habitat, loss of access to burrows will likely result in varying levels of increased stress on burrowing owls and could depress reproduction, increase predation, increase energetic costs, and introduce risks posed by having to find and compete for available burrows (CDFG, 2012).

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the City of Hesperia update Mitigation Measure 1 to include the following:

Pre-construction Burrowing Owl Surveys. Burrowing owl surveys shall be conducted at least 30 days prior to any Project activities, at any time of year. Surveys shall be completed following the recommendations and guidelines provided within the *Staff Report on Burrowing Owl Mitigation* (CDFG, March 2012) or most recent version by a qualified biologist. If an active burrowing owl burrow is detected within any project disturbance area, or within a 500-foot buffer of the disturbance area(s), a 300-foot radius buffer zone surrounding the burrow shall be flagged, and no impacts to soils or vegetation or noise levels above 65 dBA shall be permitted while the burrow remains active or occupied. Disturbance-free buffers may be modified based on site-specific conditions in consultation with CDFW. The qualified biologist shall monitor active burrows daily and will increase buffer sizes as needed if owls show signs of disturbance. If active burrowing owl burrows are located within any work area, a qualified biologist shall submit a burrowing owl exclusion plan to CDFW for review

and approval. Passive relocation shall take place outside the nesting season (1 February to 31 August).

II. Environmental Setting and Related Impact Shortcoming

Would the Project interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites?

COMMENT 2: Nesting Birds

Issue: CDFW has concerns the environmental document lacks a mitigation measure for avoiding significant impacts to nesting birds.

Specific impact: Project activities have the potential to take nesting bird individuals and their nest.

Why impact would occur: A potentially significant impact to nesting birds is not evaluated in the MND, therefore the impact is not mitigated to the extent feasible.

Evidence impact would be significant: Fish and Game Code 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code Section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Environmental Setting and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Nesting Birds. All Project activities shall be conducted outside of nesting season (January 15 to August 31) to the maximum extent feasible. During the nesting bird season, a qualified biologist shall conduct pre-project nesting bird surveys, implement nest buffers, and conduct monitoring at all active nests within

the work area and surrounding 300-foot buffer. Nesting bird surveys shall be conducted by a qualified biologist within 300 feet of all work areas, no more than 3 days prior to commencement of project activities. If active nests containing eggs or young are found, a qualified biologist shall establish an appropriate nest buffer. Nest buffers are species-specific and may range from 15 to 100 feet for passerines and 50 to 300 feet for raptors, depending on the planned activity's level of disturbance, site conditions, and the observed bird behavior. Established buffers shall remain until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests shall be monitored until the biologist has determined the young have fledged or the Project is finished. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Comment 3: Desert Kit Fox and American Badger

Issue: It is unclear from The General Biological Resources Assessment performed by RCA Associates if the potential presence of desert kit fox and American badger in the Project Area or surrounding area was evaluated.

Specific impact: Project activities have the potential to take desert kit fox and American badger, and development may result in loss of habitat and/or foraging habitat.

Why impact would occur: The environmental document did not assess habitat suitability or potential for presence of the species, therefore lacks avoidance, minimization, and mitigation measures for the species.

Evidence impact would be significant: Desert kit fox are a protected species and may not be taken at any time pursuant to Title 14 of the California Code of Regulations Section 460. American badger is a Species of Special Concern.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Pre-Construction Desert Kit Fox and American Badger Surveys. No more than 30 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct a survey to determine if potential desert kit fox or American badger burrows are present in the Project Area. If potential

burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall verify there are suitable burrows outside of the Project Area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3-5 day period. After the qualified biologist has determined there are no active burrows the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile desert kit fox and juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present.

Comment 4: Sensitive Plant Species

Issue: The General Biological Resources Assessment performed by RCA Associates, Inc. describes the methods of the general plant survey as walking meandering transects to document plants present on site and the surrounding area. It is unclear if the entire Project area was systematically covered, and all plants were identified to the taxonomic level necessary to determine rarity and listing status. Additionally, Table 1, page 21 of the assessment notes that the list of plants provided is not intended to be a comprehensive list of every plant that may occur in the Project area or surrounding area.

Specific impact: The Project has potential to impact sensitive plant species that were not identified during the general plant survey during September 2019, and the environmental document lacks avoidance, minimization, and mitigation measures should presence be confirmed.

Why impact would occur: Botanical field surveys should be conducted during times of year when plants are evident and identifiable (i.e. flowering or fruiting), which may warrant multiple surveys during the season to capture floristic diversity (CDFW, 2018). Habitats, such as desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment (CDFW, 2018).

Evidence impact would be significant: Sensitive plant species are listed under the California Endangered Species Act (CESA) as threatened, or endangered, or proposed or candidates for listing; designated as rare under the Native Plant Protection Act; or plants that otherwise meet the definition of rare, threatened, or endangered species under CEQA. Plants constituting California Rare Plant Ranks 1A, 1B, 2A, and 2B generally meet the criteria of a CESA listed species and should

be considered as an endangered, rare or threatened species for the purposes of CEQA analysis. Take of any CESA-listed species is prohibited except as authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Fish and Game Code Sections 1900–1913 includes provisions that prohibit the take of endangered and rare plants from the wild and a salvage requirement for landowners.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Sensitive Plant Species. A thorough floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, March 2018) or most recent version shall be performed by a qualified biologist prior to commencing Project activities. Should any state-listed plant species be present in the Project Area, the Project Proponent shall obtain an ITP for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project Area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from annual species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.

Comment 5: Mohave Ground Squirrel

Issue: The General Biological Resources Assessment performed by RCA Associates, Inc. states the Project Area is within the distribution of Mohave ground squirrel, a threatened species. Additionally, Table 1-1 states the site supports suitable habitat for the species, and the species has been documented in the area.

Specific impact: The Project is within Mohave ground squirrel distribution range, and Project activities have the potential to take Mohave ground squirrels.

Why impact would occur: Protocol surveys were not performed during the appropriate time of year to determine Mohave ground squirrel presence, and the environmental document lacks avoidance, minimization, and mitigation measures for the species should presence be confirmed.

Evidence impact would be significant: Mohave ground squirrel is a CESA-listed species and take (hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill) is prohibited unless authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Information on how to obtain an ITP can be found at <https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits>.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measures in the Final MND:

MM BIO-[X]: Pre-Construction Surveys for Mohave Ground Squirrel. Pre-construction surveys following the *Mohave Ground Squirrel Survey Guidelines* (CDFG, 2010) or most recent version shall be performed by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW. The preconstruction surveys shall cover the Project Area and a 50-foot buffer zone. Should Mohave ground squirrel presence be confirmed during the survey, the Project Proponent shall obtain an ITP for Mohave ground squirrel prior to the start of Project activities. CDFW shall be notified if Mohave ground squirrel presence is confirmed during the pre-construction survey.

MM BIO-[X]: Mohave Ground Squirrel Observations. If a Mohave ground squirrel is observed during Project Activities, and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.

Comment 6: Desert Tortoise

Issue: CDFW has concerns the environmental document does not include a mitigation measure should desert tortoise be present on the site prior to commencement of Project activities.

Specific impact: The Project is within desert tortoise distribution range, and Project activities have the potential to take desert tortoise.

Why impact would occur: The environmental document lacks avoidance, minimization, and mitigation measures for the species should presence be confirmed.

Evidence impact would be significant: Desert tortoise is a CESA-listed species and take (hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill) is prohibited unless authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Information on how to obtain an ITP can be found at <https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits>.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measures in the Final MND:

MM BIO-[X]: Pre-Construction Desert Tortoise Surveys. No more than 30 calendar days prior to start of Project activities a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the most recent United States Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project Area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project Activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the Project Proponent shall obtain an ITP for desert tortoise prior to the start of Project activities. Should desert tortoise presence be confirmed during the survey the qualified biologist shall notify CDFW.

MM BIO-[X]: Desert Tortoise Observations. If a desert tortoise is observed during Project Activities and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.

III. Editorial Comments and/or Suggestions

Section IV, Page 10 of MND

In response to the question, "Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?" the Lead Agency selected "No Impact". CDFW suggests the Lead Agency reconsider their selection due to the potential impacts to the species noted above.

Additional Mitigation Measures

CDFW recommends the inclusion of the following new mitigation measures to reduce potential impacts to biological resources within the Project area:

MM BIO-[X]: On-site Education. A qualified biologist shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. Education should include but not be limited to desert tortoise, burrowing owl, desert kit fox, American badger, nesting birds, and special-status plants. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site.

MM BIO-[X]: Minimize Impacts on Other Species. A qualified biologist shall be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with authorization by CDFW shall move CESA-listed species.

ENVIRONMENTAL DATA

Ryan Leonard, AICP, Senior Planner
City of Hesperia Development Services Dept.
March 13, 2020
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CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist City of Hesperia in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ashley Rosales, Environmental Scientist at 909-980-8607 or Ashley.Rosales@Wildlife.ca.gov.

Sincerely,



Scott Wilson
Environmental Program Manager

Attachment: Draft Mitigation Monitoring and Reporting Program for CDFW-proposed Mitigation Measures.

ec: Office of Planning and Research, State Clearinghouse, Sacramento

HCPB CEQA Coordinator
Habitat Conservation Planning Branch

RESOURCES

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline>)

California Department of Fish and Game (CDFG). 2010. Mohave Ground Squirrel Survey Guidelines.
(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83975&inline>)

California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.
(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>)

California Natural Diversity Database (CNDDDB) Government [ds45]. 2020. Calif. Dept. of Fish and Wildlife. Biogeographic Information and Observation System.

ATTACHMENT 1

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure compliance with mitigation measures during project implementation. Mitigation measures must be implemented within the time periods indicated in the table below.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Implementation Schedule, and Responsible Party for implementing the mitigation measure. The Mitigation Measure column summarizes the mitigation requirements. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure.

Mitigation Measure	Implementation Schedule	Responsible Party
<p><u>Pre-construction Burrowing Owl Surveys.</u> Burrowing owl surveys shall be conducted at least 30 days prior to any Project activities, at any time of year. Surveys shall be completed following the recommendations and guidelines provided within the <i>Staff Report on Burrowing Owl Mitigation</i> (CDFG, March 2012) or most recent version by a qualified biologist. If an active burrowing owl burrow is detected within any project disturbance area, or within a 500-foot buffer of the disturbance area(s), a 300- foot radius buffer zone surrounding the burrow shall be flagged, and no impacts to soils or vegetation or noise levels above 65 dBA shall be permitted while the burrow remains active or occupied. Disturbance-free buffers may be modified based on site-specific conditions in consultation with CDFW. The qualified biologist will monitor active burrows daily and will increase buffer sizes as needed if owls show signs of disturbance. If active burrowing owl burrows are located within any work area, a qualified biologist shall submit a burrowing owl exclusion plan to CDFW for review and approval. Passive relocation shall take place</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>

outside the nesting season (1 February to 31 August).		
<p><u>Nesting Birds.</u> All Project activities shall be conducted outside of nesting season (January 15 to August 31) to the maximum extent feasible. During the nesting bird season, a qualified biologist shall conduct pre-project nesting bird surveys, implement nest buffers, and conduct monitoring at all active nests within the work area and surrounding 300-foot buffer. Nesting bird surveys shall be conducted by a qualified biologist within 300 feet of all work areas, no more than 3 days prior to commencement of project activities. If active nests containing eggs or young are found, a qualified biologist shall establish an appropriate nest buffer. Nest buffers are species-specific and may range from 15 to 100 feet for passerines and 50 to 300 feet for raptors, depending on the planned activity's level of disturbance, site conditions, and the observed bird behavior. Established buffers shall remain until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests shall be monitored until the biologist has determined the young have fledged or the Project is finished. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.</p>	Before commencing ground- or vegetation-disturbing activities/Entire Project	Project Proponent
<p><u>Pre-Construction Desert Kit Fox and American Badger Surveys.</u> No more than 30 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct a survey to determine if potential desert kit fox or American badger burrows are present in the Project Area. If potential burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall verify there are suitable burrows outside of the Project Area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive</p>	Before commencing ground- or vegetation-disturbing activities/Entire project	Project Proponent

relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3-5 day period. After the qualified biologist has determined there are no active burrows the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile desert kit fox and juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present.		
Should any state-listed plant species be present in the Project Area, the Project Proponent shall obtain an ITP for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project Area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from annual species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.	Before commencing ground- or vegetation-disturbing activities/Entire Project/Post Construction	Project Proponent

<p><u>Pre-Construction Surveys for Mohave Ground Squirrel.</u> Pre-construction surveys following the <i>Mohave Ground Squirrel Survey Guidelines</i> (CDFG, 2010) or most recent version shall be performed by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW. The preconstruction surveys shall cover the Project Area and a 50-foot buffer zone. Should Mohave ground squirrel presence be confirmed during the survey, the Project Proponent shall obtain an ITP for Mohave ground squirrel prior to the start of Project activities. CDFW shall be notified if Mohave ground squirrel presence is confirmed during the pre-construction survey.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>
<p><u>Mohave Ground Squirrel Observations.</u> If a Mohave ground squirrel is observed during Project Activities, and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.</p>	<p>Entire Project</p>	<p>Project Proponent</p>
<p><u>Pre-Construction Desert Tortoise Surveys.</u> No more than 30 calendar days prior to start of Project activities a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the most recent United States Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project Area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project Activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the Project Proponent shall obtain an ITP for desert tortoise prior to the start of Project activities. Should desert tortoise presence be confirmed during the survey the qualified biologist shall notify CDFW.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>

<p><u>Desert Tortoise Observations.</u> If a desert tortoise is observed during Project Activities and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.</p>	<p>Entire Project</p>	<p>Project Proponent</p>
<p><u>On-site Education.</u> A qualified biologist shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. Education should include but not be limited to desert tortoise, burrowing owl, desert kit fox, American badger, nesting birds, and special-status plants. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>
<p><u>Minimize Impacts on Other Species.</u> A qualified biologist shall be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with authorization by CDFW shall move CESA-listed species.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>

COMMENT LETTER FROM SAN MANUEL BAND OF MISSION INDIANS

From: [Jessica Mauck](#)
To: [Ryan Leonard - Senior Planner](#)
Subject: SPR19-00015
Date: Thursday, March 5, 2020 2:57:02 PM
Attachments: [imagebc845b.PNG](#)

Hi Ryan,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced project. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on 5 February 2020, pursuant to CEQA (as amended, 2015) and CA PRC 21080.3.1. The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. However, due to the nature and location of the proposed project, and given the CRM Department's present state of knowledge, SMBMI does not have any concerns with the project's implementation, as planned, at this time. As a result, SMBMI requests that the following language be made a part of the project/permit/plan conditions:

CUL MMs

1. In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.
2. If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.
3. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

TCR MMs

1. The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed in CR-1, of any pre-contact cultural resources discovered during project implementation, and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site.
2. Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.

Note: San Manuel Band of Mission Indians realizes that there may be additional tribes claiming cultural affiliation to the area; however, San Manuel Band of Mission Indians can only speak for itself. The Tribe has no objection if the

agency, developer, and/or archaeologist wishes to consult with other tribes in addition to SMBMI and if the Lead Agency wishes to revise the conditions to recognize additional tribes.

Please provide the final copy of the project/permit/plan conditions so that SMBMI may review the included language. This communication concludes SMBMI's input on this project, at this time, and no additional consultation pursuant to CEQA is required unless there is an unanticipated discovery of cultural resources during project implementation. If you should have any further questions with regard to this matter, please do not hesitate to contact me at your convenience, as I will be your Point of Contact (POC) for SMBMI with respect to this project.

Respectfully,

Jessica Mauck

DIRECTOR OF CULTURAL RESOURCES MANAGEMENT

O: (909) 864-8933 x3249

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26569 Community Center Dr Highland California 92346

SAN MANUEL
BAND OF MISSION INDIANS

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You

COMMENT LETTER FROM LOZEAU DRURY LLP



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June 11, 2020

Via E-mail

Ryan Leonard, AICP, Senior Planner
City of Hesperia Planning Division
9700 Seventh Avenue
Hesperia, CA 92345
rleonard@cityofhesperia.us

Re: Comment on the Initial Study/Mitigated Negative Declaration for Site Plan
Review SPR19-00015

Dear Mr. Leonard:

I am writing on behalf of Supporters Alliance for Environmental Responsibility and its members living in and around the City of Hesperia ("SAFER") regarding the Initial Study/Mitigated Negative Declaration ("IS/MND") for Site Plan Review SPR19-00015, including a 123,132 square foot manufacturing/industrial building, a 19,600 square foot storage building, and an 8,865 square foot office building (the "Project"). After reviewing the IS/MND, together with our experts, we conclude that it fails to analyze all environmental impacts and to implement all necessary mitigation measures. SAFER respectfully requests that the City prepare an EIR in order to incorporate our concerns discussed below.

This comment was also prepared with assistance from ecologist Shawn Smallwood, Ph.D. Dr. Smallwood's comments and curriculum vitae are attached as Exhibit A hereto and is incorporated herein by reference in its entirety. This comment has been prepared with the assistance of the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"). SWAPE's comment the consultants' curriculum vitae are attached as Exhibit B hereto and are incorporated herein by reference in their entirety.

I. PROJECT DESCRIPTION

The Project proposes to construct a 123,132 square foot manufacturing/industrial building, a 19,600 square foot storage building, and an 8,865 square foot office building, and paced parking area, drive aisles, landscaping, and curb, gutter, and sidewalk improvements on a 9.5-acre site.

II. LEGAL STANDARD

As the California Supreme Court has held, “[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.” *Communities for a Better Env’t v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 (*CBE v. SCAQMD*) (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). “Significant environmental effect” is defined very broadly as “a substantial or potentially substantial adverse change in the environment.” Pub. Res. Code (“PRC”) § 21068; see also 14 CCR § 15382. An effect on the environment need not be “momentous” to meet the CEQA test for significance; it is enough that the impacts are “not trivial.” *No Oil, Inc.*, 13 Cal.3d at 83. “The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” *Communities for a Better Env’t v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 (*CBE v. CRA*).

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

An EIR is required if “there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.” PRC § 21080(d); see also *Pocket Protectors*, 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 (14 CCR § 15371), only if there is not even a “fair argument” that the project will have a significant environmental effect. PRC, §§ 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* (1989) 129 Cal.App.3d 436, 440.

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study “to a point where clearly no significant effect on

the environment would occur, and...there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.” PRC §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, “may” means a reasonable possibility of a significant effect on the environment. PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–05.

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

The “fair argument” standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

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

Kostka & Zisheke, *Practice Under CEQA*, §6.29, pp. 273-274. The Courts have explained that “it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency’s determination. Review is de novo, with a *preference for resolving doubts in favor of environmental review*.” *Pocket Protectors*, 124 Cal.App.4th at 928 (emphasis in original).

CEQA requires that an environmental document include a description of the project’s environmental setting or “baseline.” CEQA Guidelines § 15063(d)(2). The CEQA “baseline” is the set of environmental conditions against which to compare a project’s anticipated impacts. *CBE v. SCAQMD*, 48 Cal.4th at 321. CEQA Guidelines section 15125(a) states, in pertinent part, that a lead agency’s environmental review under CEQA:

...must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is

commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See Save Our Peninsula Committee v. County of Monterey (2001) 87 Cal.App.4th 99, 124–25 (“*Save Our Peninsula*”).) As the court of appeal has explained, “the impacts of the project must be measured against the ‘real conditions on the ground,’” and not against hypothetical permitted levels. *Id.* at 121–23.

III. DISCUSSION

A. The IS/MND Lacks Evidence to Support its Finding that the Project will not have a Significant Health Impact as a result of Hazardous Conditions on Site.

The IS/MND does not rely on any substantial evidence to support its conclusion that the Project will not expose workers and individuals to potentially hazardous materials. The IS/MND concludes that “[t]he project site is not listed in any of the following hazardous sites database systems, so it is unlikely that hazardous materials exist on-site.” IS/MND, p. 16.

This conclusion is made without a Phase I Environmental Site Assessment (“ESA”) ever being prepared for the Project site. SWAPE, p. 2.

Expert environmental consulting firm SWAPE notes that such Phase 1 assessments are a routine step taken in CEQA matters. *Id.* Standards for performing a Phase I ESA have been established by the US EPA and the American Society for Testing and Materials Standards (“ASTM”). *Id.* Phase I ESAs include a review of all known sites in the vicinity of the subject property that are on regulatory agency databases undergoing assessment or cleanup activities; an inspection; interviews with people knowledgeable about the property; and recommendations for further actions to address potential hazards. *Id.* “Phase I ESAs conclude with the identification of any “recognized environmental conditions” (“RECs”) and recommendations to address such conditions.” *Id.* Other warehouse projects in the vicinity have conducted Phase 1 ESA’s as a routine part of their environmental review. *Id.*

It is well-established that CEQA requires analysis of toxic soil contamination that may be disturbed by a Project, and that the effects of this disturbance on human health and the environment must be analyzed. CEQA requires a finding that a project has a “significant effect on the environment” if “the environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.” Pub. Res. Code §21083(b)(3). As the Court of Appeal recently stated, “[a] new project located in an area that will expose its occupants to preexisting dangerous pollutants can be said to have substantial adverse effect on human beings.” *Cal. Building Industry Assn. v. Bay Area Air Quality Mgm’t Dist.* (“*CBIA v. BAAQMD*”), 2013 Cal. App. LEXIS 644, *46 (Cal. Ct. App. 2013). The existence of toxic soil contamination at a project site is a significant impact requiring review and mitigation in the EIR. *McQueen v. Bd. of Dirs.* (1988) 202 Cal.App.3d 1136, 1149; *Assoc. For A Cleaner Env’t v. Yosemite Comm. College Dist.* (“*ACE v. Yosemite*”) (2004) 116 Cal.App.4th 629. This mitigation may not be

deferred until a future time after Project approval. *Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d 296, 306; *Citizens for Responsible Equitable Env't'l Dev. v. City of Chula Vista* ("CREED") (2011) 197 Cal.App.4th 327, 330-31.

The IS/MND's baseline for this potential impact is flawed for failure to identify existing soil conditions at the site. Without knowing the presence and levels of chemicals, the IS/MND cannot justify its conclusion that there will be no human exposure impacts, and that the Project poses no significant risks from the release of hazardous materials into the environment. The IS/MND should be revised and recirculated to include the results of a Phase I ESA to ensure protection of human health and the environment.

B. The IS/MND Lacks Evidence to Support its Finding that the Project will not have a Significant Greenhouse Gas or Air Quality Impact.

According to the IS/MND, the Project's air quality and greenhouse gas ("GHG") impacts were previously analyzed in the General Plan Update EIR ("GPUEIR"). The IS/MND states that "the proposed development does not exceed the level of development anticipated by the GPUEIR. Consequently, the impact upon GHG emissions associated with the proposed project is less than significant." IS/MND, p. 15. But this conclusion is contradicted in the GPUEIR itself, which states:

A Program EIR for the 2010 General Plan can be thought of as a "first tier" document. It evaluates the large-scale impacts on the environment that can be expected to result from the adoption of the 2010 General Plan, but does not necessarily address the site specific impacts of each individual development project that will follow and implement the 2010 General Plan. CEQA requires each of those subsequent development projects be evaluated for their particular site-specific impacts. These site-specific analyses are typically encompassed in second-tier documents, such as Project EIRs, Focused EIRs, or Negative Declarations on individual development projects subject to the requirements of the 2010 General Plan, which typically evaluate the impacts of a single activity undertaken within the context of the overall General Plan.

GPUEIR, p. 1-3 (emphasis added).

In other words, the GPUEIR itself requires that individual projects within the General Plan require project-specific CEQA analyses to evaluate project-specific environmental impacts. Yet the IS/MND does not contain a project-specific analysis of air quality and GHG impacts. "By failing to conduct a project-level analysis of the Project's criteria pollutant and GHG emissions, the IS/MND failed to provide substantial evidence that air quality and GHG impacts have been adequately analyzed and addressed." SWAPE, p. 3.

C. There is Substantial Evidence that the Project will have a Significant Air Quality Impact.

In order to analyze the Project's air quality impacts, the environmental consulting firm SWAPE prepared a CalEEMod model for the Project, using Project-specific information provided by the IS/MND. SWAPE, p. 4. Based on the model, SWAPE concludes that the Project will generate 198 lbs/day of VOC emissions, which exceeds the Mojave Desert Air Quality Management District's ("MDAQMD") threshold of significance of 137 lbs/day. *Id.* SWAPE's comments include a number of feasible mitigation measures that would reduce the Project's significant VOC emissions. SWAPE's model and conclusions constitute substantial evidence that the Project will have a significant air quality impact that has not been disclosed, analyzed, or mitigated. As a result, an EIR must be prepared.

D. The IS/MND Failed to Adequately Analyze and Mitigate the Potential Adverse Impacts of the Project on Wildlife.

The comment of Dr. Shawn Smallwood is attached as Exhibit A. Dr. Smallwood has identified several issues with the IS/MND for the Project. In addition, the March 13, 2020 comments of the California Department of Fish and Wildlife ("CDFW") are attached hereto as Exhibit C.¹ The concerns of Dr. Smallwood and CDFW are summarized below.

1. There is substantial evidence that Project may have a significant impact on multiple special-status species, requiring preparation of an EIR.

Dr. Smallwood and the CDFW conclude that the Project may have significant and unmitigated impacts on multiple special-status species, including burrowing owls, desert kit fox, American badgers, Mohave ground squirrel, and desert tortoise, among others. The CDFW's comment letter details numerous potentially significant impacts on biological resources that the IS/MND does not mitigate to the extent feasible. For example, CDFW concludes that the Project may have a significant impact on burrowing owls, and that "the City did not provide any additional avoidance, minimization, and mitigation measures to reduce significant impacts to burrowing owls should the preconstruction survey confirm presence." CDFW Comment Letter, p. 2-3 (March 13, 2020). CDFW then suggests additional mitigation measures to reduce the potential impact on burrowing owls. *Id.* at 3. Yet the MND does not include these additional mitigation measure that CDFW concludes are required to mitigate this impact. The same is true for nesting birds, despite CDFW's conclusion that CDFW concludes that "Project activities have the potential to take nesting bird individuals and their nest." CDFW, p. 4.

Similarly, CDFW concludes that the Project may involve take of desert kit fox and American badgers. The IS/MND suffers from the same shortcomings for sensitive plant species, Mohave ground squirrel and desert tortoise. The Project has the potential to impact each of these biological resources, yet the IS/MND fails to analyze or mitigate these potential impacts. CEQA

¹ On March 13, 2020, the California Department of Fish and Wildlife ("CDFW") submitted a comment letter to the City regarding the Project's impacts on biological resources. While the CDFW comment was submitted in response to the original MND dated February 10, 2020, the comments are equally applicable to the current MND.

requires an EIR be prepared to fully analyze and mitigate potentially significant impacts to numerous special status species.

2. The IS/MND fails to establish a baseline of biological conditions at the Project site.

The IS/MND's conclusion that no threatened or endangered species inhabit the site is not supported by substantial evidence. Referring to "*desert tortoise, Mohave ground squirrel, burrowing owl, yellow warbler, short-joint beavertail, coast horned lizard, coopers hawk, palid bat (sic), long-eared owl, white pygmy-poppy, booth's evening-primrose, Mojave tui chub, LeConte's thrasher, grey vireo, and other threatened/endangered species,*" the MND provides that "*The biological report states that none of these nor any other threatened or endangered species inhabit the site.*" But this is not what the biological report concluded.

As Dr. Smallwood explains in his comments, "[t]he site is potentially rich in special-status species, contrary to the portrayal of the site by RCA (2019) and City of Hesperia (2020)." Smallwood, p. 5. Multiple special-status species of wildlife have now been documented on the Project site by both RCA in the Biological Resources Assessment and by Noriko Smallwood in her May 30, 2020 site visit. *Id.* In addition, according to eBird and iNaturalist records, 51 special-status species likely use the Project site at some time. *Id.*

Dr. Smallwood points out the absence of any detection level surveys that would provide actual evidence of the presence or absence of species at the Project site. Based on his expert opinion and his observations of the Project site, there has been no effort to detect whether or not numerous sensitive species are in harm's way from the Project. Dr. Smallwood comments on the one site visit conducted by one of the Project's consultants on a single day:

RCA (2019) reportedly performed "focused" and "protocol" surveys for multiple special-status species, as well as habitat assessments for multiple species – all of the surveys performed during a single day on 16 September 2019. However, the methods used to accomplish this remarkable feat were lacking in critical details. No information was provided on the qualifications of the observers, their arrival time, nor how much time they spent on site. RCA (2019) neglected to provide fundamental methodological details recommended by CDFW (2012) for burrowing owl detection surveys, let alone the information needed to assess surveys results for the many additional special-status species at issue. There was no indication that RCA complied with the first desert tortoise survey guideline of conferring with the US Fish and Wildlife Service (Table 4). RCA (2019) failed to meet the majority of the standards in the survey guidelines for burrowing owl (Table 3), desert tortoise (Table 4), nor Mohave ground squirrel (Table 5). RCA provided neither focused surveys nor protocol surveys for any of the potentially occurring special-status species, and therefore should not claim to have done so.

Smallwood, p. 5-6.

The IS/MND's dismissal of the occurrence likelihood of LeConte's thrasher because of

the lack of recent CNDDDB records is also flawed. This is an incorrect use of CNDDDB. Dr. Smallwood explains:

The limitations of CNDDDB are well-known, and summarized by CDFW in a warning presented on its CNDDDB web site (<https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>): “*We work very hard to keep the CNDDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers...*” RCA’s misuse of CNDDDB added to a flawed environmental baseline, and thus a flawed foundation of the Initial Study. With a flawed foundation, the Initial Study could not fully disclose impacts.

Smallwood, p. 6.

CDFW pointed out additional shortcomings in the IS/MND’s evaluation of the environmental baseline. Referring to the IS/MND’s failure to establish an environmental baseline for sensitive plant species, CDFW points out that the General Biological Assessment performed by RCA Associates, Inc. is unclear as to whether the entire Project area was surveyed and all plants identified to the taxonomic level necessary to determine rarity and listing status. CDFW, p. 6. In addition, the IS/MND also fails to establish a baseline for the Mohave ground squirrel because the survey for the species was conducted during the wrong time of year. CDFW, p. 8.

Similarly, CDFW notes that, “[i]t is unclear from The General Biological Resources Assessment performed by RCA Associates if the potential presence of desert kit fox and American badger in the Project Area or surrounding area was evaluated.” CDFW, p. 4. This is in part because the report did not assess habitat suitability or potential for presence of the species. *Id.* Without this information, the IS/MND failed to establish an environmental baseline from which to evaluate the Project’s potential impacts on desert kit fox and American badgers, both of which are protected species.

Establishing an accurate baseline is the sine qua non to adequately analyzing and mitigating the significant environmental impacts of the Project. *See* CEQA Guidelines, § 15125(a); *Save Our Peninsula*, 87 Cal.App.4th at 121-123. Unfortunately, the IS/MND’s failure to investigate and identify the occurrences of sensitive biological resources at the Project site results in a skewed baseline. Such a skewed baseline 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 at 656; *Woodward Park Homeowners*, 150 Cal.App.4th at 708-711. The IS/MND’s failure to acknowledge the abundance of special status species that likely will be adversely affected by the extensive building proposed in the Project “lacks analysis” and “omits the magnitude of the impact” to biological resources. *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 514. As a result, the IS/MND is insufficient as a matter of law.

The various preconstruction surveys called for in the IS/MND do nothing to rectify the IS/MND's numerous shortcomings in disclosing impacts. Nor would those surveys to be conducted just prior to construction stand-in as a proper baseline from which to disclose and evaluate impacts. Smallwood, p. 16-17.

By failing to conduct any surveys and disregarding the absence of key species from the project site, ignoring numerous other species likely to be present, the IS/MND fails to establish and otherwise skews the entire biological resources baseline for the Project. This entire section should be redone, starting with properly timed, truly focused, detection surveys of the entire site and a complete list of special status bird species that may be adversely affected by the Project.

3. The IS/MND fails to analyze the Project's impacts on wildlife from additional traffic generated by the Project.

According to the IS/MND, the Project will generate 742 automobile trips per day. Yet the IS/MND provides no analysis of the impacts on wildlife that will be caused by this significant increase in traffic on the roadways servicing the Project. As a result of increased traffic resulting from the Project, Dr. Smallwood identified likely impacts to special-status species including the desert tortoise, burrowing owl, and Mohave ground squirrel." Smallwood, pp. 14-15. As Dr. Smallwood notes, "regardless of whether they live on site, [these species] must cross roadways that will experience increased traffic volume caused by this project." *Id.* at 14.

Vehicle collisions with special-status species is not a minor issue. Dr. Smallwood explains that a "recent study of traffic-caused wildlife mortality along a 2.5 mile stretch of Vasco Road in Contra Costa County, California, revealed 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009)." When adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error, "[t]his 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." *Id.*

The IS/MND must analyze whether increased traffic generated by the Project will similarly result in significant impacts to wildlife such as desert tortoise, burrowing owl, and Mohave ground squirrel.

4. The IS/MND's conclusion that the Project will not have a significant impact on wildlife movement is not supported by substantial evidence.

The IS/MND concludes that, with mitigation, the Project will have a less-than-significant impact on wildlife movement. IS/MND, p. 10. Yet the IS/MND provides no explanation of this conclusions. There is no explanation of what the impact would be without mitigation or how and to what extent mitigation would reduce the impact. In fact, there is not even a specific mitigation measure identified that would be relevant to this conclusion. The MND "must contain facts and analysis, not just the agency's bare conclusions or opinions." *Concerned Citizens of Costa Mesa*

c. 32nd Dist. Ag. Assn. (1986) 42 Cal.3d 929, 935; *Citizens of Goleta Valley v. Bd. of Sups.* (1990) 52 Cal.3d 553, 568. Here, the MND provides nothing more than a bare conclusion that the Project will have a less-than-significant impact on wildlife movement. Approving the MND without evidence to support this conclusion would be an abuse of discretion.

5. The Project may have a significant impact on biological resources as a result of pest control.

In addition to failing to analyze impacts on wildlife from vehicle collisions, the IS/MND also fails to analyze impacts from the use of pesticides within and outside of the proposed warehouse and other buildings. There are many businesses that provide services and products for controlled stored products pests, perching birds, and rodent and other mammal pests within and around distribution warehouses. Smallwood, p. 15. This indicates a conflict between wildlife and warehousing. Practices related to animal damage control need to be disclosed and the impact of those practices on wildlife analyzed. An EIR is needed to fully analyze the potential impacts to wildlife as a result of animal control in and around the warehouse. Smallwood, p. 15.

6. The IS/MND's conclusion that the Project will not have a cumulative impact on biological resources is not supported by substantial evidence.

The IS/MND concludes that the Project will not have as significant cumulative impact on biological resources because the vegetation cover on the Project site is common across the Mohave Desert. This explanation is not consistent with CEQA or ecological principles. The Project's impacts on biological resources must be looked at together with past, present, and reasonably foreseeable future projects that may also have impacts on biological resources. Particularly concerning here is that the biological analysis makes no mention of the massive expansion of solar and wind generation projects in the area and across the Mojave Desert. Smallwood, p. 16. Without any of this information, the MND's conclusion that the Project will have no cumulative biological impact is not supported by substantial evidence.

E. The IS/MND's Conclusion that the Project Will Not Have a Significant Cumulative Impact is Not Supported by Substantial Evidence.

For each environmental impact, the MND concludes that the Project would not result in cumulatively significant impacts, but this conclusion is completely unsupported. IS/MND, p. 28.

An initial study and MND must discuss a Project's significant cumulative impacts. 14 CCR § 15130(a). This requirement flows from CEQA section 21083, which requires a finding that a project may have a significant effect on the environment if "the possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

“Cumulative impacts” are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” 14 CCR § 15355(a). “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” *Id.* “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” *Comm. for a Better Env’t v. Cal. Resources Agency (“CBE v. CRA”)* (2002) 103 Cal.App.4th 98, 117; 14 CCR § 15355(b). A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

The CEQA Guidelines allow two methods for satisfying the cumulative impacts analysis requirement: the list-of-projects approach, and the summary-of-projects approach. Under either method, the MND must summarize the expected environmental effects of the project and related projects, provide a reasonable analysis of the cumulative impacts, and examine reasonable mitigation options. 14 CCR § 15130(b). The IS/MND’s cumulative impacts analysis does not comply with either of these requirements.

Here, the IS/MND does not mention a single past, present, or future project that it evaluated cumulatively with the instant Project. Instead, the entire “analysis” supporting this conclusion is:

Based upon the analysis in this initial study, a Mitigated Negative Declaration may be adopted. Development of this project will have a minor effect on the environment. These impacts are only significant to the degree that mitigation measures are necessary.

IS/MND, p. 28.

These statements are purely conclusory, and have no relevance to an analysis of the Project’s cumulative impacts. Without any information on what – if any – cumulative projects were considered, and what environmental impacts those cumulative projects have, the public and decision makers lack any information on which to assess the validity of the cumulative impacts conclusions under CEQA.

As Dr. Smallwood points out, particularly concerning here is that the biological analysis makes no mention of the massive expansion of solar and wind generation projects in the area and across the Mojave Desert. Smallwood, p. 16. These and other projects have greatly impacted biological resources, and the impacts of this Project must be looked at cumulatively with other projects that may have similar impacts. Without even the most basic information about any of the cumulative projects or their environmental impacts, the IS/MND’s general cumulative impact conclusion is not supported by substantial evidence.

An EIR is required to fully evaluate and mitigate potentially significant cumulative environmental impacts.

IV. CONCLUSION

In light of the above comments, the City must prepare an EIR for the Project, which should be circulated for public review and comment in accordance with CEQA. Thank you for considering these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Rebecca L. Davis', with a long horizontal flourish extending to the right.

Rebecca L. Davis
Lozeau | Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Ryan Leonard, Senior Planner
City of Hesperia Planning Division
9700 Seventh Avenue
Hesperia, CA 92345

1 June 2020

RE: Steeno Warehouse

Dear Mr. Leonard,

I write to comment on the Initial Study/Mitigated Negative Declaration (City of Hesperia 2020) and supporting biological resources assessment (RCA Associates 2019) prepared for the proposed Steeno Warehouse Project (Site Plan Review SPR19-00015), which I understand would include a 123,132 ft² industrial/manufacturing building, a 19,600 ft² storage building, and an 8,865 ft² administration building on 9.5 acres of land at the southeast corner of US 395 and Poplar Street.

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 subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I performed research on wildlife mortality caused by wind turbines, electric distribution lines, agricultural practices, and road traffic. I authored numerous papers on special-status species issues. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer 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-three years, including at many proposed project sites. My CV is attached.

SITE VISIT

Noriko Smallwood, a wildlife biologist pursuing a Master's Degree at California State University Los Angeles, visited the proposed project site (Photo 1) from 05:32 to 08:32 hours and 10:55 to 11:30 hours on 30 May 2020. The site had been graded in the recent past, and so was covered by successional vegetation (Photo 1). Noriko surveyed the site and its surroundings using a pair of 7×42 Leica Ultravid binoculars. The weather was lightly cloudy and windy, 60-75 °F.



Photo 1. *The project site on 30 May 2020. Photo by Noriko Smallwood.*

Noriko saw a pair of breeding cactus wrens in a Joshua tree next to the project site (Photo 2), and multiple breeding pairs of horned larks on the project site. Both cactus wrens and horned larks are special-status species. Noriko also saw up to 20 common ravens on site (Photo 3), a San Bernardino tiger whiptail (Photo 4), a California ground squirrel as well as a ground squirrel burrow complex (Photo 5). California ground squirrels provide burrows for use by burrowing owls, and ground squirrels and burrowing owls benefit each other through mutual predator alarm-calling.

Noriko saw 8 terrestrial vertebrate species of wildlife (Table 1). What she saw at the site adds to those species detected by RCA (2019) to total 17 terrestrial vertebrate species of wildlife. Besides this growing list of species on site, the birds Noriko saw there displayed breeding behaviors, so breeding is occurring on site. Birds breeding near the site undoubtedly forage on the project site to feed their chicks. The site also hosts harvester ants (Photo 6), which are the primary prey items of Blainville's horned lizard, and the site supports many grasshoppers (Photo 7), which are important prey items of Swanson's hawk, American kestrels, burrowing owls, loggerhead shrikes, and other special-status species. The site is actively used by wildlife, and therefore contributes substantially as wildlife habitat. A fair argument can be made for the need to prepare an EIR to adequately address potential project impacts on multiple special-status species and how to mitigate those impacts.

Photo 2. Cactus wren guarding its nest site in a Joshua tree next to the project site, 30 May 2020. Photo by Noriko Smallwood.



Photo 3 (left). One of about 20 common ravens calling and socializing on the project site, 30 May 2020. Photo by Noriko Smallwood.

Photo 4 (right). San Bernardino tiger whiptail next to the project site on 30 May 2020. Photo by Noriko Smallwood.





Photo 5. Ground squirrel burrows under a juniper next to the project site, 30 May 2020. Photo by Noriko Smallwood.

Photo 6. Harvester ants at the project site, 30 May 2020. Photo by Noriko Smallwood.

Photo 7. One of many grasshoppers on the project site, 30 May 2020. Photo by Noriko Smallwood.



Table 1. Species of wildlife Noriko Smallwood observed during 05:32 to 08:32 hours and 10:55 to 11:30 hours on 30 May 2020 at the site of the proposed project.

Species	Scientific name	Status ¹	Notes
Mourning dove	<i>Zenaida macroura</i>		Flyover
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	BCC	Nesting in Joshua tree just off site
California horned lark	<i>Eremophila alpestris actia</i>	TWL	Multiple nests
Common raven	<i>Corvus corax</i>		20 calling, socializing
House sparrow	<i>Passer domesticus</i>	Non-native	Breeding
House finch	<i>Carpodacus mexicanus</i>		Breeding behavior
California ground squirrel	<i>Otospermophilus beecheyi</i>		Adjacent property
Great Basin whiptail	<i>Aspidoscelis tigris tigris</i>		Just off site
Harvester ants	<i>Pogonomermys californicus</i>		

¹ BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, TWL = Taxa to Watch List (Shuford and Gardali 2008).

BIOLOGICAL IMPACTS ASSESSMENT

Referring to “desert tortoise, Mohave ground squirrel, burrowing owl, yellow warbler, short-joint beavertail, coast horned lizard, coopers hawk, palid bat (sic), long-eared owl, white pygmy-poppy, booth’s evening-primrose, Mojave tui chub, LeConte’s thrasher, grey vireo, and other threatened/endangered species (20)” City of Hesperia (2020:11) reports, “*The biological report states that none of these nor any other threatened or endangered species inhabit the site.*” This is not what the biological resources report concluded. According to RCA (2019:4), “*Following completion of the habitat assessment, it was determined that the site does support suitable habitat for the burrowing owl.*” RCA (2019) also concluded habitat on the site is suitable for Blainville’s horned lizard, short-joint beavertail, Booth’s evening-primrose, white pygmy-poppy, and LeConte’s thrasher. City of Hesperia (2020) selectively uses the findings of RCA (2019), and therefore mischaracterizes them.

In fact, multiple special-status species of wildlife have been documented on the site by RCA (2019) on 16 September 2019 and Noriko Smallwood on 30 May 2020, including cactus wren, horned lark, and Bell’s sage sparrow. According to eBird and iNaturalist records, and habitat descriptions and geographic range map overlaps, 51 special-status species of wildlife likely use the site at one time or another (Table 2). The site is potentially rich in special-status species, contrary to the portrayal of the site by RCA (2019) and City of Hesperia (2020).

Even had City of Hesperia accurately represented the biological resources report, such a conclusion would be unsupportable without having performed detection surveys for burrowing owl and the other special-status species. RCA (2019) found California ground squirrels on site, which predispose the site for use by burrowing owls. Despite earlier concluding the habitat on site was suitable for burrowing owls, RCA (2019) also concluded “*no suitable (i.e., “occupiable”) burrows were observed.*” However, if California ground squirrels were found on site, then suitable burrows were available for burrowing owls, as California ground squirrels and burrowing owls cohabitate within California ground squirrel burrow complexes (Smallwood and Morrison 2018).

Also, according to City of Hesperia (2020:11), “*No owls or owl signs were seen on the property during the survey and no suitable burrows were observed. Although the burrowing owl was determined to be absent from the site...*” Again, such a conclusion is unsupportable without having performed detection surveys. That burrowing owls were not seen during one day in September means nothing. RCA (2019) did not come anywhere close to following the CDFW (2012) guidelines on burrowing owl detection surveys (Table 3). Following the guidelines is especially important because the Desert Renewable Energy Conservation Plan depicts burrowing owl records at or very close to the project site.

RCA (2019) reportedly performed “focused” and “protocol” surveys for multiple special-status species, as well as habitat assessments for multiple species – all of the surveys performed during a single day on 16 September 2019. However, the methods used to

accomplish this remarkable feat were lacking in critical details. No information was provided on the qualifications of the observers, their arrival time, nor how much time they spent on site. RCA (2019) neglected to provide fundamental methodological details recommended by CDFW (2012) for burrowing owl detection surveys, let alone the information needed to assess surveys results for the many additional special-status species at issue. There was no indication that RCA complied with the first desert tortoise survey guideline of conferring with the US Fish and Wildlife Service (Table 4). RCA (2019) failed to meet the majority of the standards in the survey guidelines for burrowing owl (Table 3), desert tortoise (Table 4), nor Mohave ground squirrel (Table 5). RCA provided neither focused surveys nor protocol surveys for any of the potentially occurring special-status species, and therefore should not claim to have done so.

RCA (2019) was inconsistent in its analysis of potential impacts. For example, although RCA's Table 4-1 characterized on-site habitat as suitable for burrowing owls, and although RCA reportedly detected California ground squirrels on site, RCA concluded, *"The probability of owls moving onto the site in the future is low based on the results of the field investigations and the absence of any suitable burrows that the species could utilize."* What is unsuitable about ground squirrel burrows? I mapped nearly 800 nest sites of burrowing owls in one study (Smallwood et al. 2013), and hundreds more burrows used by burrowing owls as non-breeding season refugia in the same study. Of the 2,028 sites occupied by burrowing owls in that study, 9 were in rock formations, 8 were in culvert pipes, 7 were in ground squirrel burrows that had been reamed by American badgers, and 99% of them were in ground squirrel burrows within active squirrel-occupied burrow complexes. Ground squirrels were also the dominant providers of burrowing owl burrows in another two large studies I performed (e.g., Smallwood and Morrison 2018) as well as multiple additional small-scale studies. RCA's analysis was flawed. In fact, it was so flawed that it reached the opposite conclusion that would have been reached by biologists familiar with burrowing owl ecology.

RCA (2019) dismissed the occurrence likelihood of LeConte's thrasher for lack of recent CNDDDB records. This determination, like others made for other special-status species, represented an abuse of CNDDDB. Lack of CNDDDB records does not mean a species is absent from a site. Consulting CNDDDB is fine for confirming presence of a species, but it is inappropriate for determining absence and hence to narrow a list of potentially occurring species. CNDDDB relies on voluntary reporting, but not on scientific sampling or access to all properties. The limitations of CNDDDB are well-known, and summarized by CDFW in a warning presented on its CNDDDB web site (<https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>): *"We work very hard to keep the CNDDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers..."* RCA's misuse of CNDDDB added to a flawed environmental baseline, and thus a flawed foundation of the Initial Study. With a flawed foundation, the Initial Study could not fully disclose impacts.

Table 2. Occurrence likelihoods of wildlife species at the project site.

Common name	Species name	Status	Occurrence
Mojave fringe-toed lizard	<i>Uma scoparia</i>	SSC	Range overlap
Blainville's horned lizard	<i>Phrynosoma blainvillii</i>	SSC	iNaturalist nearby
Agassiz's desert tortoise	<i>Gopherus agassizii</i>	FT, CT	iNaturalist nearby
California gull	<i>Larus californicus</i>	TWL	eBird nearby
Turkey vulture	<i>Cathartes aura</i>	FGC 3503.5	eBird nearby
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, CFP	eBird nearby
Red-tailed hawk	<i>Buteo jamaicensis</i>	FGC 3503.5	eBird nearby
Swainson's hawk	<i>Buteo swainsoni</i>	CT, FGC 3503.5	eBird nearby
Red-shouldered hawk	<i>Buteo lineatus</i>	FGC 3503.5	eBird nearby
Ferruginous hawk	<i>Buteo regalis</i>	TWL, FGC 3503.5	eBird nearby
Northern harrier	<i>Circus cyaneus</i>	SSC3, FGC 3503.5	eBird nearby
White-tailed kite	<i>Elanus leucurus</i>	CFP, FGC 3503.5	eBird nearby
Sharp-shinned hawk	<i>Accipiter striatus</i>	FGC 3503.5	eBird nearby
Cooper's hawk	<i>Accipiter cooperi</i>	FGC 3503.5	eBird nearby
American kestrel	<i>Falco sparverius</i>	FGC 3503.5	eBird nearby
Merlin	<i>Falco columbarius</i>	FGC 3503.5	eBird adjacent
Prairie falcon	<i>Falco mexicanus</i>	BCC, FGC 3503.5	eBird nearby
Peregrine falcon	<i>Falco peregrinus</i>	BCC, CE, CFP	eBird nearby
Barn owl	<i>Tyto alba</i>	FGC 3503.5	eBird nearby
Great-horned owl	<i>Bubo virginianus</i>	FGC 3503.5	eBird nearby
Western screech-owl	<i>Megascops kennicotti</i>	FGC 3503.5	eBird nearby
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC2, FGC 3503.5	eBird nearby
Vaux's swift	<i>Chaetura vauxi</i>	SSC2	eBird nearby
Costa's hummingbird	<i>Calypte costae</i>	BCC	eBird nearby
Allen's hummingbird	<i>Selasphorus sasin</i>	BCC	eBird nearby
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	eBird nearby
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	BCC	eBird nearby; Smallwood reported on site
Horned lark	<i>Eremophila alpestris actia</i>	TWL	eBird nearby; RCA and Smallwood reported on site

Common name	Species name	Status	Occurrence
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, CE	eBird nearby
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC2	eBird nearby
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	SSC2	eBird nearby
Oak titmouse	<i>Baeolophus inornatus</i>	BCC	eBird nearby
Black-tailed gnatcatcher	<i>Polioptila nigriceps</i>	TWL	eBird in region
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC2	eBird nearby
LeConte's thrasher	<i>Toxostoma leconte</i>	BCC, SSC1	eBird nearby
Bendire's thrasher	<i>Toxostoma bendirei</i>	BCC, SSC3	eBird nearby
Yellow warbler	<i>Dendroica petachia</i>	BCC, SSC2	eBird nearby
Bell's sage sparrow	<i>Amphispiza b. belli</i>	TWL	eBird nearby; RCA found
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC2	eBird nearby
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	BCC	eBird nearby
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	SSC	Possible
Pallid bat	<i>Antrozous pallidus</i>	SSC	Range overlap
Fringed myotis	<i>Myotis thysanodes</i>	WBWG	Range overlap
Long-legged myotis	<i>Myotis evotis</i>	WBWG	Range overlap
Long-legged myotis	<i>Myotis volans</i>	WBWG	Range overlap
Yuma myotis	<i>Myotis yumanensis</i>	SSC	Range overlap
Western yellow bat	<i>Lasiurus xanthinus</i>	SSC	Range overlap
American badger	<i>Taxidea taxus</i>	SSC	Range overlap
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	Range overlap
Pallid San Diego pocket mouse	<i>Chaetodipus fallax pallidus</i>	SSC	Possible
Mohave ground squirrel	<i>Xerospermophilus mojavenensis</i>	CT	Range overlap

1 Listed as FE and FT = federal endangered and threatened, BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, CE and CT = California endangered and threatened, CFP = California Fully Protected (FGC Code 3511), SSC = California species of special concern, SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively, and TWL = Taxa to Watch List (Shuford and Gardali 2008), FGC 3503.5 = California Fish and Game Code 3503.5 (Birds of prey), and WBWG = Western Bat Working Group listing as moderate or high priority.

Table 3. *Assessment of whether 2019 site visit (RCA Associates 2019) achieved the standards in CDFW's (2012) recommended burrowing owl survey protocol. Standards are numbered to match those in CDFW (2012).*

Standard in CDFW (2012)	Assessment of surveys performed	Was the standard met?
Minimum qualifications of biologists performing surveys and impact assessments		
(1) Familiarity with the species and local ecology	Pointed out only that burrowing owls use burrows excavated by other species	No
(2) Experience conducting habitat assessments and breeding and non-breeding season surveys	No description of experience was provided	No
(3) Familiarity with regulatory statutes, scientific research and conservation related to burrowing owls	No indication of familiarity with scientific research or conservation related to burrowing owls	No
(4) Experience with analyzing impacts on burrowing owls	No summary of such experience	No
Habitat assessment		
(1) Conduct at least 1 visit covering entire site and offsite buffer to 150 m	One visit was made	Yes
(2) Prior to site visit, compile relevant biological information on site and surrounding area	No compilation reported	No
(3) Check available sources for occurrence records	Only CNDDDB was checked	No
(4) Identify vegetation cover potentially supporting burrowing owls on site and vicinity	Vegetation crudely reported, but not related to burrowing owls	No
(5a) Describe project and timeline of activities	Vague	No
(5b) Regional setting map showing project location		Yes
(5c) Detailed map with project footprint, topography, landscape and potential vegetation-altering activities		No
(5d) Biological setting including location, acreage, terrain, soils, geography, hydrology, land use and management history	Not provided	No
(5e) Analysis of relevant historical information concerning burrowing owl use or occupancy	No, and there was no evidence that local people were interviewed about burrowing owl use of the site or area	No
(5f) Vegetation cover and height typical of temporal and spatial scales relevant to the assessment	No specific reporting on this	No

Standard in CDFW (2012)	Assessment of surveys performed	Was the standard met?
(5g) Presence of burrowing owl individuals, pairs or sign	Wrong time of year	No
(5h) Presence of suitable burrows or burrow surrogates	Misleading conclusion that no suitable burrows available	No
Breeding season surveys		
Perform 4 surveys separated by at least 3 weeks	Not performed	No
1 survey between 15 February and 15 April	Not performed	No
2-3 surveys between 15 April and 15 July	Not performed	No
1 survey following June 15	Not performed	No
Walk transects spaced 7 m to 20 m apart	Not performed	No
Scan entire viewable area using binoculars at start of each transect and at 100 m intervals	Not performed	No
Record all potential burrow locations determined by presence of owls or sign	Not performed	No
Survey when temperature >20° C (68° F), winds <12 km/hr, and cloud cover <75%	Not performed	No
Survey between dawn and 10:00 hours or within 2 hours before sunset	Not performed	No
Identify and discuss any adverse conditions such as disease, predation, drought, high rainfall or site disturbance	Not performed	No
Survey several years where activities will be ongoing, annual or start-and-stop to cover high nest site fidelity	Not performed	No
Reporting should include:		
(1) Survey dates with start and end times and weather conditions	Times not even reported for habitat assessment	No
(2) Qualifications of surveyor(s)	None reported	No
(3) Discussion of how survey timing affected comprehensiveness and detection probability	Not performed	No

Standard in CDFW (2012)	Assessment of surveys performed	Was the standard met?
(4) Description of survey methods including point count dispersal and duration	Not performed	No
(5) Description and justification of the area surveyed	Not performed	No
(6) Numbers of nestlings or juveniles associated with each pair and whether adults were banded or marked	Not performed	No
(7) Descriptions of behaviors of burrowing owls observed	Not performed	No
(8) List of possible burrowing owl predators in the area, including any signs of predation of burrowing owls	Not performed	No
(9) Detailed map showing all burrowing owl locations and potential or occupied burrows	Not performed	No
(10) Signed field forms, photos, etc.	Not performed	No
(11) Recent color photos of project site	Not performed	No
(12) Copies of CNDDB field forms	Not performed	No

Table 4. *Assessment of whether 2019 site visit (RCA Associates 2019) achieved the standards in USFWS's (2017) recommended desert tortoise survey protocol.*

Standard in USFWS (2017)	Assessment of surveys performed	Was the standard met?
Coordinate with USFWS	No coordination	No
Survey entire action area	Surveyed action area plus 600-foot buffer to north and west	Yes
Establish 10-m wide belt transects	No map of transects reported	Yes
Examine every burrow using flashlight or mirror	No mention of surveying any burrows, nor doing so with a light or mirror	No
Record all tortoise sign	Reportedly none found	Yes
Prefer focused surveys over multispecies surveys	Simultaneous survey for “general plant and animal,” burrowing owl, Mojave ground squirrel, and desert tortoise	No
Prefer experienced searchers	No summary of searcher experience	No
The action area is the area directly affected by the project, including roads along which the project noticeably increased traffic volume	The roads servicing the project will experience increased truck traffic and need to be assessed for potential impacts on desert tortoise	No

Table 5. Assessment of whether 2019 site visit (RCA Associates 2019) achieved the standards in CDFW's (2010) recommended Mohave ground squirrel survey protocol for projects <180 acres. Standards are numbered to match those in CDFW (2010).

Standard in USFWS (2017)	Assessment of surveys performed	Was the standard met?
(1) Trapping requires CDFW-authorized MOU, naming qualified biologists on MOU	No MOU was arranged	No
(2) Visual scan surveys 15 March – 15 April	Surveyed on 16 September	No
(2) Visual scans during daylight hours	Insufficient reporting	Yes
(2) Surveyors must be capable of distinguishing Mohave ground squirrels from white-tailed antelope squirrels	Experience not summarized	Unknown
(3) Negative visual scans to be followed by trapping grids using 12" Sherman live-traps	No trapping performed	No
(4) Linear sites use 1 100-trap grid per mile of 25 rows of 4 traps, each row spaced 35 m	No trapping performed	No
(5) Nonlinear sites use 1 100-trap grid per 80 acres with 35-m spacing between traps	No trapping performed	No
(6) Trap 5 consecutive days or until squirrel trapped. If no captures in 5 days, trap another 5 consecutive days, and if no captures repeat for a third set of 5 consecutive days	No trapping performed	No
(6) Complete first 5 consecutive days of trapping 15 March – 30 April, second set of 5 days at least 2 weeks following the first but between 1 May and 30 May, third set of 5 days at least 2 weeks following the 2 nd but between 15 June and 15 July	No trapping performed	No
(6) All trapping must avoid high winds, rain, and temperatures <10° C	No trapping performed	No
(8) One qualified biologist manages each set of 100 traps	No trapping performed	No
(8) Each trap must be covered for shade, which is to be oriented N-S	No trapping performed	No
(8) Open traps ≤1 hour of sunrise and closed ≤1 hour of sunset	No trapping performed	No
(8) Check traps every 4 hours	No trapping performed	No
(8) While traps are open, hourly measure temperature in shade 1 foot above ground within the grid, closing traps when temperature exceeds 32° C	No trapping performed	No
(9) Qualified biologist to complete Survey and Trapping Form attached to guidelines and submit to CDFW	No trapping performed	No
(11) Negative trapping results are valid for 1 year	No trapping performed	No

Wildlife Movement

City of Hesperia (2012) concludes the project, with mitigation, would have no significant impact on wildlife movement in the region. However, City of Hesperia (2020) provides no explanation for its conclusion, nor did RSA (2019) address the issue. There is no explanation for how mitigation would lessen the impacts to less than significant, nor is there specific mitigation identified that would do so. This issue needs to be addressed. A fair argument can be made for the need of an EIR to address this and other potential project impacts.

Traffic Impacts on Wildlife

City of Hesperia (2020) predicts a daily automobile trip generation of 742. That would be a substantial addition to the traffic using roads to and from the project site, posing crushing and collision hazards to many species of wildlife, including species listed in Table 2. A fundamental shortfall of City of Hesperia (2020) is its failure to analyze the impacts of the project's added road traffic on special-status species of wildlife that, regardless of whether they live on the site, must cross roadways that will experience increased traffic volume caused by this project. City of Hesperia (2020) provides no analysis of impacts on wildlife that will be caused by increased traffic on roadways servicing the project.

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.

A recent study of traffic-caused wildlife mortality along a 2.5 mile stretch of Vasco Road in Contra Costa County, California, revealed 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 in the area

would similarly result in intense local impacts on wildlife such as desert tortoise, burrowing owl, and Mohave ground squirrel. A fair argument can be made for the need to prepare an EIR to address potential traffic impacts on wildlife and how to mitigate those impacts.

Pest Control and Target and Non-target Mortality

No impacts assessment or mitigation measures were discussed in City of Hesperia (2020) regarding the use of pesticides within and outside the proposed warehouse and other buildings. Multiple businesses advertise their services on the internet for controlling stored products pests, perching birds, and rodent and other mammal pests within and around distribution warehouses (e.g., <https://www.catseyepest.com/pest-control/commercial-pest-control/warehouse-and-distribution-facilities>, <http://advancedipm.com/commercial/commercial-pest-management-for-warehouses-and-distribution-centers/>, <https://www.terminix.com/blog/commercial/how-pests-impact-warehouses/>). These types of businesses advertise exclusion strategies, as well as fumigation for stored products pests, glue boards for rodents, and ‘other measures.’ Having a background in animal damage control, I am familiar with ‘other methods,’ including the use of anticoagulant poisons and acute toxicants such as strychnine. I also know from experience that the use of toxicants can harm non-target wildlife through direct exposure and indirect exposure via predation and scavenging. In other words, pest control involving toxicants can result in the spread of toxicants beyond the warehouse.

I reviewed the scientific literature on animal damage control associated with warehousing. Little to no serious scientific attention has been directed toward animal damage control in warehouse settings. That businesses are advertising their animal damage control services in warehousing indicates either an awareness or an assumption that the warehousing industry experiences damage from wildlife. There also exists a how-to manual on managing animal pests in distribution warehouses (<http://www.pctonline.com/article/vertebrate-pests--the-fight-against-pallet-mice/>), further indicating conflicts exist between wildlife and warehousing. It is important, therefore, that an EIR be prepared to address the potential impacts of animal damage control associated with this proposed project. Industry practices related to animal damage control should be detailed, as well as anticipated practices at this project. Potential impacts caused by these practices need to be assessed, and suitable mitigation measures formulated along with assurances that they will be implemented.

CUMULATIVE IMPACTS

RCA Associates (2019) concluded that cumulative impacts will be negligible because the vegetation cover on the site is common across the Mohave Desert. If that was the standard – that a particular resource that will be diminished by a project is regionally common – then CEQA would not require cumulative impacts analysis. RCA Associates (2019) performed no cumulative effects analysis addressing the incremental effects of past, present and reasonable conceivable future projects in the region. City of Hesperia

(2020) does no better, and in fact makes no mention of biological resources in its two-sentence cumulative impacts analysis.

RCA (2019) mentioned not one word about the vast expansion of solar and wind generation projects in the area and across the Mojave Desert. An EIR is needed to tabulate the habitat loss and traffic generation from existing and planned warehouses and other commercial and industrial projects in the region, and then from this tabulation the EIR needs to be prepared to analyze cumulative impacts. An EIR is needed also to formulate appropriate mitigation for traffic-caused wildlife mortality.

MITIGATION

City of Hesperia (2020) recommends several mitigation measures, which I address below.

1. Burrowing owl clearance surveys.

Contrary to the implication in City of Hesperia's recommendation, the clearance surveys that are recommended cannot achieve consistency with the standards of CDFW (2012). Preconstruction surveys are not detection surveys. Preconstruction surveys would detect only the most readily detectable nest sites, and the rest would be destroyed by the project. Detection surveys are needed to either detect burrowing owls or support a determination of absence; preconstruction surveys cannot do this. Detection surveys are needed to estimate project impacts, and to inform the formulation of appropriate mitigation. They are also needed to inform biologists about where preconstruction surveys would be most effective. Performing preconstruction surveys without having first performed detection surveys would be inconsistent with CDFW (2012).

2. Provide construction buffer zones around burrowing owl burrows.

This measure needs to follow the performance of detection surveys that meet the standards of the burrowing owl survey guidelines (CDFW 2012). If occupied burrows are detected, City of Hesperia needs to confer with CDFW about construction buffer zones versus construction timing.

3. Preconstruction surveys for breeding birds.

Preconstruction surveys are proposed for nesting birds, as they ought to be. However, preconstruction surveys are really wildlife salvage surveys; they are intended as last-minute efforts to save the readily detectable birds or their nests from being crushed by heavy machinery. With many bird nests on site during the breeding season, and with the majority of these nests having been constructed for concealment from predators, preconstruction surveys are assured to detect a tiny fraction of bird nests. Such surveys would save very few of the nesting birds in peril.

Furthermore, preconstruction surveys cannot estimate nor offset the permanent loss of breeding habitat and all of the productive capacity lost with that habitat. Far more effective than preconstruction surveys, construction timed outside the breeding season would cause no direct mortality of breeding birds, although this approach cannot avoid habitat loss and loss of breeding capacity.

4 and 5. Preconstruction surveys for desert tortoise and Mohave ground squirrel.

As explained for burrowing owl, preconstruction surveys are no substitutes for detection surveys. Detection surveys have not been performed at the project site; RCA (2019) did not perform protocol-level detection surveys.

RECOMMENDED MEASURES

Detection surveys

Detection surveys need to be completed to inform an EIR. Detection surveys are needed to assess impacts, to inform preconstruction take-avoidance surveys by mapping out where biologists performing preconstruction surveys are most likely to find animals before the tractor blade finds them, and to inform the formulation of appropriate mitigation measures. Detection surveys need to be consistent with guidelines and protocols that wildlife ecologists have uniquely developed for use with each special-status species. Catch-all surveys, such as the survey performed by RCA Associates, are not appropriate for determining the absence of any species let alone all of them.

Wildlife Movement

City of Hesperia (2020) provides no mitigation for adverse impacts on regional movement of wildlife. At a minimum, substantial compensatory mitigation is needed in response to the project's impacts on wildlife movement, including impacts on birds using the site as stop-over or staging habitat during migration.

Road Mortality

Compensatory mitigation is needed for the increased wildlife mortality that will be caused by the project's contribution to increased 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.

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. Most of the injuries will likely be caused by the increased trip

generation of cars and trucks. Many animals need treatment caused by collision injuries and an increasing number appear to be injured by the turbulence of passing trucks.

Thank you for your attention,



Shawn Smallwood, Ph.D.

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Photo: Cabbage white butterfly on the project site, 30 May 2020. Photo by Noriko Smallwood.



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Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 477 professional publications, including:
 - 81 peer reviewed publications
 - 24 in non-reviewed proceedings
- 370 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results at meetings
- Reviewed many professional papers and reports
- Testified in 4 court cases.

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The

five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

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Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. *Wildlife Society Bulletin* 41:224-230.

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EXHIBIT B



Technical Consultation, Data Analysis and
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June 3, 2020

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Subject: Comments on the Site Plan Review SPR19-00015 (SCH No. 2020029035)

Dear Ms. Davis,

We have reviewed the May 2020 Initial Study/Mitigated Negative Declaration ("IS/MND") for the Site Plan Review SPR19-00015 ("Project") located in the City of Hesperia ("City"). The Project proposes to construct a 123,132-SF industrial building, a 19,600-SF storage building, an 8,865-SF office building, as well as 149 parking spaces, landscaping, and sidewalk improvements on the 9.5-acre Project site.

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

Hazards and Hazardous Materials

The IS/MND made the following determination in the issue area of Hazards and Hazardous Materials:

"The project site is not listed in any of the following hazardous sites database systems, so it is unlikely that hazardous materials exist on-site" (p. 16).

The IS/MND makes a determination regarding the potential significance of Hazards and Hazardous Materials solely on the basis of regulatory website searches and without the benefit of a Phase I

Environmental Site Assessment (ESA), a routine due-diligence step in CEQA proceedings. The evaluation of hazards and hazardous materials impacts based solely on the review of website searches is inadequate due diligence. Potential Project impacts should be assessed in a Phase I Environmental Site Assessment (ESA) for inclusion in an EIR. Phase I ESAs are commonly included in CEQA documentation to identify hazardous waste issues that may pose a risk to the public, workers, or the environment, and which may require further investigation, including environmental sampling and cleanup.

Standards for performing a Phase I ESA have been established by the US EPA and the American Society for Testing and Materials Standards (ASTM).¹ Phase I ESAs are conducted to identify conditions indicative of releases of hazardous substances and include:

- a review of all known sites in the vicinity of the subject property that are on regulatory agency databases undergoing assessment or cleanup activities;
- an inspection;
- interviews with people knowledgeable about the property;
- review of historical aerial photos; and
- recommendations for further actions to address potential hazards.

Phase I ESAs conclude with the identification of any “recognized environmental conditions” (RECs) and recommendations to address such conditions. A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. If RECs are identified, then a Phase II ESA generally follows, which includes the collection of soil, soil vapor and groundwater samples, as necessary, to identify the extent of contamination and the need for cleanup to reduce exposure potential to the public.

Consistent with professional due diligence procedures commonly used in CEQA matters, a Phase I ESA, completed by a licensed environmental professional, is necessary for inclusion in an EIR to identify recognized environmental conditions, if any, at the proposed Project site. A Phase II ESA should be conducted if the Phase I indicates a recognized environmental condition. Any contamination that is identified above regulatory screening levels, including California Office of Environmental Health Hazard Assessment’s Soil Screening Numbers², should be further evaluated and cleaned up, if necessary, in coordination with the Department of Toxic Substances Control and the San Diego County Department of Environmental Health.

¹ <http://www.astm.org/Standards/E1527.htm>

² <http://oehha.ca.gov/risk/chhsltable.html>

Air Quality & Greenhouse Gas

Incorrect Reliance on the General Plan Update EIR

The IS/MND claims that the Project's air quality and greenhouse gas ("GHG") impacts were previously analyzed by the General Plan Update Environmental Impact Report ("GPUEIR"). Specifically, the IS/MND states:

"The General Plan Update Environmental Impact Report (GPUEIR) analyzed the impact to air quality upon build-out of the General Plan. Based upon this analysis, the City Council adopted a finding of a Statement of Overriding Considerations dealing with air quality impacts (7). As part of the GPUEIR, the impact of industrial development to the maximum allowable intensity permitted by the Land Use Plan was analyzed. The impact of the proposed project does not meet any threshold which requires air quality analysis or mitigation under the Air Quality Attainment Plan" (p. 10).

Furthermore, regarding the Project's GHG emissions, the IS/MND states:

"[T]he proposed development does not exceed the level of development anticipated by the GPUEIR. Consequently, the impact upon GHG emissions associated with the proposed project is less than significant" (p. 15).

However, these justifications and subsequent less than significant impact conclusions are incorrect and unsubstantiated, as the GPUEIR failed to mention or evaluate the Project's emissions. Specifically, the GPUEIR states:

"A Program EIR for the 2010 General Plan can be thought of as a "first tier" document. It evaluates the large-scale impacts on the environment that can be expected to result from the adoption of the 2010 General Plan, but does not necessarily address the site specific impacts of each individual development project that will follow and implement the 2010 General Plan. CEQA requires each of those subsequent development projects be evaluated for their particular site-specific impacts. These site-specific analyses are typically encompassed in second-tier documents, such as Project EIRs, Focused EIRs, or Negative Declarations on individual development projects subject to the requirements of the 2010 General Plan, which typically evaluate the impacts of a single activity undertaken within the context of the overall General Plan" (emphasis added) (p. 1-3).

As you can see in the excerpt above, the GPUEIR states that individual development projects within the General Plan still require individual site-specific CEQA analyses in order to evaluate project-specific impacts. Thus, the air quality and GHG impacts potentially resulting from the proposed Project were not adequately evaluated by the GPUEIR. By failing to conduct a project-level analysis of the Project's criteria pollutant and GHG emissions, the IS/MND failed to provide substantial evidence that air quality and GHG impacts have been adequately analyzed and addressed, and as a result, we cannot verify that the Project has less than significant impacts.

SWAPE Analysis Indicates Significant Air Pollutant Emissions

In an effort to accurately determine the proposed Project's construction and operational emissions, we prepared a SWAPE CalEEMod model for the Project, using the Project-specific information provided by the IS/MND. We included the land use types and sizes, as well as 742 daily primary trips, as indicated by the IS/MND (p. 25). All other values were left as defaults.

Our updated analysis demonstrates that the Project's construction-related VOC emissions exceed the 137 pounds per day (lbs/day) threshold set by the MDAQMD (see table below).³

Maximum Daily Construction Emissions (lbs/day)	
Model	VOC/ROG
SWAPE	198
MDAQMD Regional Threshold (lbs/day)	137
Threshold Exceeded?	Yes

When modeled, the Project's construction-related VOC emissions exceed the MDAQMD threshold of 137 lbs/day. Our model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the IS/MND. As a result, an EIR should be prepared to include an updated air pollution model and analysis to adequately estimate the Project's construction and operational emissions and incorporate mitigation to reduce these emissions to a less than significant level.

Feasible Mitigation Measures Available to Reduce Emissions

In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the Project from NEDC's *Diesel Emission Controls in Construction Projects*.⁴ Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's Diesel Emission Controls in Construction Projects ⁵	
Measures – Diesel Emission Control Technology	
a. Diesel Onroad Vehicles	All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators	

³ "California Environmental Quality Act (CEQA) And Federal Conformity Guidelines." MDAQMD, August 2016, available at: <https://www.mdagmd.ca.gov/home/showdocument?id=192>, p. 9, 10.

⁴ "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

⁵ "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
<p>c. Diesel Nonroad Construction Equipment</p> <ul style="list-style-type: none"> i. All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site ii. All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines 50hp and greater and by a minimum of 20% for engines less than 50hp.
d. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.
e. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
f. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend ⁶ approved by the original engine manufacturer with sulfur content of 15 ppm or less.
Measures – Idling Requirements
During periods of inactivity, idling of diesel onroad vehicles and nonroad equipment shall be minimized and shall not exceed the time allowed under state and local laws.
Measures – Additional Diesel Requirements
<p>a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:</p> <ul style="list-style-type: none"> i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting

⁶ Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:
<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>.

<p>a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes:</p> <ul style="list-style-type: none"> i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor's letterhead.
<p>b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes:</p> <ul style="list-style-type: none"> i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: <ul style="list-style-type: none"> 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the Project from CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce emissions.⁷ Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

CAPCOA's <i>Quantifying Greenhouse Gas Mitigation Measures</i>⁸
Measures – Energy
<i>Building Energy Use</i>
<p>BE-1 Exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code) by X%</p> <p><i>Range of Effectiveness:</i> See document for specific improvement desired.</p>
<p>BE-2 Install Programmable Thermostat Timers</p> <p><i>Range of Effectiveness:</i> Best Management Practice – Influences building energy use for heating and cooling.</p>
<p>BE-3 Obtain Third-party HVAC Commissioning and Verification of Energy Savings (to be grouped with BE-1)</p> <p><i>Range of Effectiveness:</i> Not applicable on its own. This measure enhances the effectiveness of BE-1.</p>
<p>BE-4 Install Energy Efficient Appliances</p> <p><i>Range of Effectiveness:</i> Residential 2-4% GHG emissions from electricity use. Grocery Stores: 17-22% of GHG emissions from electricity use. See document for other land use types.</p>
<p>BE-5 Install Energy Efficient Boilers</p> <p><i>Range of Effectiveness:</i> 1.2-18.4% of boiler GHG emissions.</p>
<i>Lighting</i>

⁷ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

⁸ "Quantifying Greenhouse Gas Mitigation Measures." California Air Pollution Control Officers Association (CAPCOA), August 2010, *available at*: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>, p.

LE-1 Install Higher Efficacy Public Street and Area Lighting
<i>Range of Effectiveness:</i> 16-40% of outdoor lighting.
LE-2 Limit Outdoor Lighting Requirements
<i>Range of Effectiveness:</i> Best Management Practice, but may be quantified.
LE-3 Replace Traffic Lights with LED Traffic Lights
<i>Range of Effectiveness:</i> 90% of emissions associated with existing traffic lights.
Alternative Energy Generation
AE-1 Establish Onsite Renewable or Carbon-Neutral Energy Systems – Generic
<i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.
AE-2 Establish Onsite Renewable Energy System – Solar Power
<i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.
AE-3 Establish Onsite Renewable Energy System – Wind Power
<i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.
AE-4 Utilize a Combined Heat and Power System
<i>Range of Effectiveness:</i> 0-46% of GHG emissions associated with electricity use.
AE-5 Establish Methane Recovery in Landfills
<i>Range of Effectiveness:</i> 73-77% reduction in GHG emissions from landfills without methane recovery.
AE-6 Establish Methane Recovery in Wastewater Treatment Plants
<i>Range of Effectiveness:</i> 95-97% reduction in GHG emissions from wastewater treatment plants without recovery.
Measures – Transportation
Land Use/Location
LUT-1 Increase Density
<i>Range of Effectiveness:</i> 0.8-30% vehicle miles traveled (VMT) reduction and therefore a 0.8-30% reduction in GHG emissions.
LUT-2 Increase Location Efficiency
<i>Range of Effectiveness:</i> 10% vehicle miles traveled (VMT) reduction and therefore 10-65% reduction in GHG emissions.
LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)
<i>Range of Effectiveness:</i> 9-30% vehicle miles traveled (VMT) and therefore 9-30% reduction in GHG emissions.
LUT-4 Increase Destination Accessibility
<i>Range of Effectiveness:</i> 6.7-20% vehicle miles traveled (VMT) reduction and therefore 6.7-20% reduction in GHG emissions.
LUT-5 Increase Transit Accessibility
<i>Range of Effectiveness:</i> 0.5-24.6% VMT reduction and therefore 0.5-24.6% reduction in GHG emissions.
LUT-6 Integrate Affordable and Below Market Rate Housing
<i>Range of Effectiveness:</i> 0.04-1.20% vehicle miles traveled (VMT) reduction and therefore 0.04-1.20% reduction in GHG emissions.
LUT-7 Orient Project Toward Non-Auto Corridor
<i>Range of Effectiveness:</i> Grouped strategy (see LUT-3).
LUT-8 Locate Project near Bike Path/Bike Lane
<i>Range of Effectiveness:</i> Grouped strategy (see LUT-4).
Neighborhood/Site Enhancements
SDT-1 Provide Pedestrian Network Improvements, such as:

<ul style="list-style-type: none"> • Compact, mixed-use communities • Interconnected street network • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures and street trees • Parks and public spaces • Minimize pedestrian barriers <p><i>Range of Effectiveness:</i> 0-2% vehicle miles traveled (VMT) reduction and therefore 0-2% reduction in GHG emissions.</p>
<p>SDT-2 Provide Traffic Calming Measures, such as:</p> <ul style="list-style-type: none"> • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii • Roundabouts or mini-circles • On-street parking • Planter strips with trees • Chicanes/chokers <p><i>Range of Effectiveness:</i> 0.25-1% vehicle miles traveled (VMT) reduction and therefore 0.25-1% reduction in GHG emissions.</p>
<p>SDT-3 Implement a Neighborhood Electric Vehicle (NEV) Network.</p> <p><i>Range of Effectiveness:</i> 0.5-12.7% vehicle miles traveled (VMT) reduction since NEVs would result in a mode shift and therefore reduce the traditional vehicle VMT and GHG emissions. Range depends on the available NEV network and support facilities, NEV ownership levels, and the degree of shift from traditional.</p>
<p>SDT-4 Create Urban Non-Motorized Zones</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see SDT-1).</p>
<p>SDT-5 Incorporate Bike Lane Street Design (on-site)</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).</p>
<p>SDT-6 Provide Bike Parking in Non-Residential Projects</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).</p>
<p>SDT-7 Provide Bike Parking with Multi-Unit Residential Projects</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see SDT-3).</p>
<p>SDT-8 Provide Electric Vehicle Parking</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see SDT-3).</p>
<p>SDT-9 Dedicate Land for Bike Trails</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).</p>
<p>Parking Policy/Pricing</p>
<p>PDT-1 Limit Parking Supply through:</p> <ul style="list-style-type: none"> • Elimination (or reduction) of minimum parking requirements • Creation of maximum parking requirements

<ul style="list-style-type: none"> • Provision of shared parking <p><i>Range of Effectiveness:</i> 5-12.5% vehicle miles traveled (VMT) reduction and therefore 5-12.5% reduction in GHG emissions.</p>
<p>PDT-2 Unbundle Parking Costs from Property Cost</p> <p><i>Range of Effectiveness:</i> 2.6-13% vehicle miles traveled (VMT) reduction and therefore 2.6-13% reduction in GHG emissions.</p>
<p>PDT-3 Implement Market Price Public Parking (On-Street)</p> <p><i>Range of Effectiveness:</i> 2.8-5.5% vehicle miles traveled (VMT) reduction and therefore 2.8-5.5% reduction in GHG emissions.</p>
<p>PDT-4 Require Residential Area Parking Permits</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see PPT-1, PPT-2, and PPT-3).</p>
<p>Commute Trip Reduction Programs</p>
<p>TRT-1 Implement Commute Trip Reduction (CTR) Program – Voluntary</p> <ul style="list-style-type: none"> • Carpooling encouragement • Ride-matching assistance • Preferential carpool parking • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (parking, showers and lockers) • New employee orientation of trip reduction and alternative mode options • Event promotions and publications • Flexible work schedule for employees • Transit subsidies • Parking cash-out or priced parking • Shuttles • Emergency ride home <p><i>Range of Effectiveness:</i> 1-6.2% commute vehicle miles traveled (VMT) reduction and therefore 1-6.2% reduction in commute trip GHG emissions.</p>
<p>TRT-2 Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring</p> <ul style="list-style-type: none"> • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting <p><i>Range of Effectiveness:</i> 4.2-21% commute vehicle miles traveled (VMT) reduction and therefore 4.2-21% reduction in commute trip GHG emissions.</p>
<p>TRT-3 Provide Ride-Sharing Programs</p> <ul style="list-style-type: none"> • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement. <p><i>Range of Effectiveness:</i> 1-15% commute vehicle miles traveled (VMT) reduction and therefore 1-15% reduction in commute trip GHG emissions.</p>
<p>TRT-4 Implement Subsidized or Discounted Transit Program</p> <p><i>Range of Effectiveness:</i> 0.3-20% commute vehicle miles traveled (VMT) reduction and therefore a 0.3-20% reduction in commute trip GHG emissions.</p>

<p>TRT-5 Provide Ent of Trip Facilities, including:</p> <ul style="list-style-type: none"> • Showers • Secure bicycle lockers • Changing spaces <p><i>Range of Effectiveness:</i> Grouped strategy (see TRT-1 through TRT-3).</p>
<p>TRT-6 Encourage Telecommuting and Alternative Work Schedules, such as:</p> <ul style="list-style-type: none"> • Staggered starting times • Flexible schedules • Compressed work weeks <p><i>Range of Effectiveness:</i> 0.07-5.5% commute vehicle miles traveled (VMT) reduction and therefore 0.07-5.5% reduction in commute trip GHG emissions.</p>
<p>TRT-7 Implement Commute Trip Reduction Marketing, such as:</p> <ul style="list-style-type: none"> • New employee orientation of trip reduction and alternative mode options • Event promotions • Publications <p><i>Range of Effectiveness:</i> 0.8-4% commute vehicle miles traveled (VMT) reduction and therefore 0.8-4% reduction in commute trip GHG emissions.</p>
<p>TRT-8 Implement Preferential Parking Permit Program</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see TRT-1 through TRT-3).</p>
<p>TRT-9 Implement Car-Sharing Program</p> <p><i>Range of Effectiveness:</i> 0.4-0.7% vehicle miles traveled (VMT) reduction and therefore 0.4-0.7% reduction in GHG emissions.</p>
<p>TRT-10 Implement School Pool Program</p> <p><i>Range of Effectiveness:</i> 7.2-15.8% in school vehicle miles traveled (VMT) reduction and therefore 7.2-15.8% reduction in school trip GHG emissions.</p>
<p>TRT-11 Provide Employer-Sponsored Vanpool/Shuttle</p> <p><i>Range of Effectiveness:</i> 0.3-13.4% commute vehicle miles traveled (VMT) reduction and therefore 0.3-13.4% reduction in commute trip GHG emissions.</p>
<p>TRT-12 Implement Bike-Sharing Programs</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see SDT-5 and LUT-9).</p>
<p>TRT-13 Implement School Bus Program</p> <p><i>Range of Effectiveness:</i> 38-63% School VMT reduction and therefore 38-63% reduction in school trip GHG emissions.</p>
<p>TRT-14 Price Workplace Parking, such as:</p> <ul style="list-style-type: none"> • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives. <p><i>Range of Effectiveness:</i> 0.1-19.7% commute vehicle miles traveled (VMT) reduction and therefore 0.1-19.7% reduction in commute trip GHG emissions.</p>
<p>TRT-15 Implement Employee Parking “Cash-Out”</p> <p><i>Range of Effectiveness:</i> 0.06-7.7% commute vehicle miles traveled (VMT) reduction and therefore 0.6-7.7% reduction in commute trip GHG emissions.</p>

Transit System Improvements
<p>TST-1 Transit System Improvements, including:</p> <ul style="list-style-type: none"> • Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services. <p><i>Range of Effectiveness:</i> 0.02-3.2% vehicle miles traveled (VMT) reduction and therefore 0.02-3% reduction in GHG emissions.</p>
<p>TST-2 Implement Transit Access Improvements, such as:</p> <ul style="list-style-type: none"> • Sidewalk/crosswalk safety enhancements • Bus shelter improvements <p><i>Range of Effectiveness:</i> Grouped strategy (see TST-3 and TST-4)</p>
<p>TST-3 Expand Transit Network</p> <p><i>Range of Effectiveness:</i> 0.1-8.2% vehicle miles traveled (VMT) reduction and therefore 0.1-8.2% reduction in GHG emissions.</p>
<p>TST-4 Increase Transit Service Frequency/Speed</p> <p><i>Range of Effectiveness:</i> 0.02-2.5% vehicle miles traveled (VMT) reduction and therefore 0.02-2.5% reduction in GHG emissions.</p>
<p>TST-5 Provide Bike Parking Near Transit</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see TST-3 and TST-4).</p>
<p>TST-6 Provide Local Shuttles</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see TST-4 and TST-5).</p>
Road Pricing/Management
<p>RPT-1 Implement Area or Cordon Pricing</p> <p><i>Range of Effectiveness:</i> 7.9-22% vehicle miles traveled (VMT) reduction and therefore 7.9-22% reduction in GHG emissions.</p>
<p>RPT-2 Improve Traffic Flow, such as:</p> <ul style="list-style-type: none"> • Signalization improvements to reduce delay; • Incident management to increase response time to breakdowns and collisions; • Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and • Speed management to reduce high free-flow speeds. <p><i>Range of Effectiveness:</i> 0-45% reduction in GHG emissions.</p>
<p>RTP-3 Required Project Contributions to Transportation Infrastructure Improvement Projects</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see RPT-2 and TST-1 through 7).</p>
<p>RTP-4 Install Park-and-Ride Lots</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see RPT-1, TRT-11, TRT-3, and TST-1 through 6).</p>

Vehicles
VT-1 Electrify Loading Docs and/or Require Idling-Reduction Systems <i>Range of Effectiveness:</i> 26-71% reduction in TRU idling GHG emissions.
VT-2 Utilize Alternative Fueled Vehicles, such as: <ul style="list-style-type: none"> • Biodiesel (B20) • Liquefied Natural Gas (LNG) • Compressed Natural Gas (CNG) <i>Range of Effectiveness:</i> Reduction in GHG emissions varies depending on vehicle type, year, and associated fuel economy.
VT-3 Utilize Electric or Hybrid Vehicles <i>Range of Effectiveness:</i> 0.4-20.3% reduction in GHG emissions.
Measures – Water
Water Supply
WSW-1 Use Reclaimed Water <i>Range of Effectiveness:</i> Up to 40% in Northern California and up to 81% in Southern California.
WSW-2 Use Gray Water <i>Range of Effectiveness:</i> Up to 100% of outdoor water GHG emissions if outdoor water use is replaced completely with graywater.
WSW-3 Use Locally Sourced Water Supply <i>Range of Effectiveness:</i> 0-60% for Northern and Central California, 11-75% for Southern California.
Water Use
WUW-1 Install Low-Flow Water Fixtures <i>Range of Effectiveness:</i> 20% of GHG emissions associated with indoor Residential water use; 17-31% of GHG emissions associated with Non-Residential indoor water use.
WUW-2 Adopt a Water Conservation strategy <i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. It is equal to the Percent Reduction in water commitment.
WUW-3 Design Water-Efficient Landscapes (see California Department of Water Resources Model Water Efficient Landscape Ordinance), such as: <ul style="list-style-type: none"> • Reducing lawn sizes; • Planting vegetation with minimal water needs, such as native species; • Choosing vegetation appropriate for the climate of the project site; • Choosing complimentary plants with similar water needs or which can provide each other with shade and/or water. <i>Range of Effectiveness:</i> 0-70% reduction in GHG emissions from outdoor water use.
WUW-4 Use Water-Efficient Landscape Irrigation Systems (“Smart” irrigation control systems) <i>Range of Effectiveness:</i> 6.1% reduction in GHG emissions from outdoor water.
WUW-5 Reduce Turf in Landscapes and Lawns <i>Range of Effectiveness:</i> Varies and is equal to the percent commitment to turf reduction, assuming no other outdoor water use.
WUW-6 Plant Native or Drought-Resistant Trees and Vegetation <i>Range of Effectiveness:</i> Best Management Practice; may be quantified if substantial evidence is available.
Measures – Area Landscaping

Landscaping Equipment
A-1 Prohibit Gas Powered Landscape Equipment
<i>Range of Effectiveness:</i> Best Management Practice, influences Area GHG emissions from landscape equipment.
A-2 Implement Lawnmower Exchange Program
<i>Range of Effectiveness:</i> Best Management Practice, influences Area GHG emissions from landscape equipment.
A-3 Electric Yard Equipment Compatibility
<i>Range of Effectiveness:</i> Best Management Practice, influences Area GHG emissions from landscape equipment. Not applicable on its own. This measure enhances effectiveness of A-1 and A-2.
Measures – Solid Waste
Solid Waste
SW-1 Institute Recycling and Composting Services
<i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.
SW-2 Recycle Demolished Construction Material
<i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.
Measures – Vegetation
Vegetation
V-1 Urban Tree Planting
<i>Range of Effectiveness:</i> CO ₂ reduction varies by number of trees. VOC emissions may increase.
V-2 Create New Vegetated Open Space
<i>Range of Effectiveness:</i> Varies based on amount and type of land vegetated.
Measures – Construction
Construction
C-1 Use Alternative Fuels for Construction Equipment
<i>Range of Effectiveness:</i> 0-22% reduction in GHG emissions.
C-1 Urban Tree Planting
<i>Range of Effectiveness:</i> CO ₂ reduction varies by number of trees. VOC emissions may increase.
C-2 Use Electric and Hybrid Construction Equipment
<i>Range of Effectiveness:</i> 2.5-80% of GHG emissions from equipment that is electric or hybrid if used 100% of the time.
C-3 Limit Construction Equipment Idling Beyond Regulation Requirements
<i>Range of Effectiveness:</i> Varies with the amount of Project Idling occurring and the amount reduced.
C-4 Institute a Heavy-Duty Off-Road Vehicle Plan, including:
<ul style="list-style-type: none"> • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment.
<i>Range of Effectiveness:</i> Not applicable on its own. This measure ensures compliance with other mitigation measures.
C-5 Implement a Construction Vehicle Inventory Tracking System
<i>Range of Effectiveness:</i> Not applicable on its own. This measure ensures compliance with other mitigation measures.
Measures – Miscellaneous

Miscellaneous
<p>Misc-1 Establish a Carbon Sequestration Project, such as:</p> <ul style="list-style-type: none"> • Geologic sequestration or carbon capture and storage techniques, in which CO₂ from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO₂ sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered. <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and projects selected. The GHG emissions reduction is subtracted from the overall baseline project emissions inventory.</p>
<p>Misc-2 Establish Off-Site Mitigation</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and projects selected. The GHG emissions reduction is subtracted from the overall baseline project emissions inventory.</p>
<p>Misc-3 Use Local and Sustainable Building Materials</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>
Misc-4 Require best Management Practices in Agriculture and Animal Operations
<p>Misc-5 Require Environmentally Responsible Purchasing, such as:</p> <ul style="list-style-type: none"> • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; • Purchasing 'green power' (e.g. electricity generated from renewable or hydropower) from the utility; and • Choosing locally-made and distributed products. <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>
<p>Misc-6 Implement an Innovative Strategy for GHG Mitigation</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>
Measures – General Plans
General Plans
<p>GP-1 Fund Incentives for Energy Efficiency, such as:</p> <ul style="list-style-type: none"> • Retrofitting or designing new buildings, parking lots, streets, and public areas with energy-efficient lighting; • Retrofitting or designing new buildings with low-flow water fixtures and high-efficiency appliances; • Retrofitting or purchasing new low-emissions equipment; • Purchasing electric or hybrid vehicles; • Investing in renewable energy systems <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>
<p>GP-2 Establish a Local Farmer's Market</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>
<p>GP-3 Establish Community Gardens</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>

GP-4 Plant Urban Shade Trees

Range of Effectiveness: The reduction in GHG emissions is not quantifiable at this time, therefore this mitigation measure should be implemented as a Best Management Practice. If the study data were updated to account for Title 24 standards, the GHG emissions reductions could be quantified, but would vary based on location, building type, and building size.

GP-5 Implement Strategies to Reduce Urban Heat-Island Effect, such as:

- Planting urban shade trees;
- Installing reflective roofs; and
- Using light-colored or high-albedo pavements and surfaces.

Range of Effectiveness: The reduction in GHG emissions is not quantifiable at this time, therefore this mitigation measure should be implemented as a Best Management Practice. If the study data were updated to account for Title 24 standards, the GHG emissions reductions could be quantified, but would vary based on location, building type, and building size.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. A revised CEQA evaluation should be prepared to include all feasible mitigation measures, as well as include an updated air quality analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised CEQA evaluation should also demonstrate commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

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.

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	123.13	1000sqft	2.83	123,132.00	0
General Light Industry	19.60	1000sqft	0.45	19,600.00	0
General Office Building	8.87	1000sqft	0.20	8,865.00	0
Parking Lot	149.00	Space	1.34	59,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison assumed as utility company. All other values left as defaults.

Land Use -

Vehicle Trips - Consistent with IS/MND.

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Table Name	Column Name	Default Value	New Value
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.50	4.12
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	ST_TR	2.46	11.03
tblVehicleTrips	SU_TR	1.50	4.12
tblVehicleTrips	SU_TR	0.68	6.97
tblVehicleTrips	SU_TR	1.05	11.03
tblVehicleTrips	WD_TR	1.50	4.12

2.0 Emissions Summary

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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					
2020	0.1533	1.4230	1.1216	2.2900e-003	0.1093	0.0704	0.1797	0.0486	0.0658	0.1144	0.0000	202.4772	202.4772	0.0413	0.0000	203.5107
2021	1.9731	1.7287	1.6641	3.5800e-003	0.0754	0.0806	0.1561	0.0205	0.0758	0.0962	0.0000	316.7847	316.7847	0.0558	0.0000	318.1792
Maximum	1.9731	1.7287	1.6641	3.5800e-003	0.1093	0.0806	0.1797	0.0486	0.0758	0.1144	0.0000	316.7847	316.7847	0.0558	0.0000	318.1792

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					
2020	0.1533	1.4229	1.1216	2.2900e-003	0.1093	0.0704	0.1797	0.0486	0.0658	0.1144	0.0000	202.4770	202.4770	0.0413	0.0000	203.5106
2021	1.9731	1.7287	1.6641	3.5800e-003	0.0754	0.0806	0.1561	0.0205	0.0758	0.0962	0.0000	316.7845	316.7845	0.0558	0.0000	318.1789
Maximum	1.9731	1.7287	1.6641	3.5800e-003	0.1093	0.0806	0.1797	0.0486	0.0758	0.1144	0.0000	316.7845	316.7845	0.0558	0.0000	318.1789

[illegible]

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2020	10-31-2020	1.0198	1.0198
2	11-1-2020	1-31-2021	0.8170	0.8170
3	2-1-2021	4-30-2021	0.7410	0.7410
4	5-1-2021	7-31-2021	0.7676	0.7676
5	8-1-2021	9-30-2021	1.8562	1.8562
		Highest	1.8562	1.8562

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	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003
Energy	0.0252	0.2288	0.1922	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	744.2417	744.2417	0.0252	8.8000e-003	747.4934
Mobile	0.2698	2.4190	2.9984	0.0131	0.8798	8.0900e-003	0.8879	0.2358	7.5900e-003	0.2434	0.0000	1,218.8976	1,218.8976	0.0890	0.0000	1,221.1230
Waste						0.0000	0.0000		0.0000	0.0000	37.6000	0.0000	37.6000	2.2221	0.0000	93.1525
Water						0.0000	0.0000		0.0000	0.0000	10.9715	146.8965	157.8680	1.1330	0.0279	194.4948
Total	1.0689	2.6478	3.1934	0.0145	0.8798	0.0255	0.9053	0.2358	0.0250	0.2608	48.5716	2,110.0411	2,158.6127	3.4693	0.0367	2,256.2693

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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	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003
Energy	0.0252	0.2288	0.1922	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	744.2417	744.2417	0.0252	8.8000e-003	747.4934
Mobile	0.2698	2.4190	2.9984	0.0131	0.8798	8.0900e-003	0.8879	0.2358	7.5900e-003	0.2434	0.0000	1,218.8976	1,218.8976	0.0890	0.0000	1,221.1230
Waste						0.0000	0.0000		0.0000	0.0000	37.6000	0.0000	37.6000	2.2221	0.0000	93.1525
Water						0.0000	0.0000		0.0000	0.0000	10.9715	146.8965	157.8680	1.1330	0.0279	194.4948
Total	1.0689	2.6478	3.1934	0.0145	0.8798	0.0255	0.9053	0.2358	0.0250	0.2608	48.5716	2,110.0411	2,158.6127	3.4693	0.0367	2,256.2693

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2020	8/28/2020	5	20	
2	Site Preparation	Site Preparation	8/29/2020	9/4/2020	5	5	
3	Grading	Grading	9/5/2020	9/16/2020	5	8	
4	Building Construction	Building Construction	9/17/2020	8/4/2021	5	230	
5	Paving	Paving	8/5/2021	8/30/2021	5	18	
6	Architectural Coating	Architectural Coating	8/31/2021	9/23/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,396; Non-Residential Outdoor: 75,799; Striped Parking Area: 3,576 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	88.00	35.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386

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3.2 Demolition - 2020**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	6.3000e-004	5.1000e-004	4.6600e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0290	1.0290	4.0000e-005	0.0000	1.0299
Total	6.3000e-004	5.1000e-004	4.6600e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0290	1.0290	4.0000e-005	0.0000	1.0299

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385

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3.2 Demolition - 2020**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	6.3000e-004	5.1000e-004	4.6600e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0290	1.0290	4.0000e-005	0.0000	1.0299
Total	6.3000e-004	5.1000e-004	4.6600e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0290	1.0290	4.0000e-005	0.0000	1.0299

3.3 Site Preparation - 2020**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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	0.0102	0.1060	0.0538	1.0000e-004	0.0452	5.4900e-003	0.0507	0.0248	5.0500e-003	0.0299	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253

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3.3 Site Preparation - 2020**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	1.9000e-004	1.5000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3090
Total	1.9000e-004	1.5000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3090

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	0.0102	0.1060	0.0538	1.0000e-004	0.0452	5.4900e-003	0.0507	0.0248	5.0500e-003	0.0299	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252

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3.3 Site Preparation - 2020**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	1.9000e-004	1.5000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3090
Total	1.9000e-004	1.5000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3090

3.4 Grading - 2020**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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	9.7200e-003	0.1055	0.0642	1.2000e-004	0.0262	5.0900e-003	0.0313	0.0135	4.6900e-003	0.0182	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078

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3.4 Grading - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	2.1000e-004	1.8600e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4116	0.4116	1.0000e-005	0.0000	0.4120
Total	2.5000e-004	2.1000e-004	1.8600e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4116	0.4116	1.0000e-005	0.0000	0.4120

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	9.7200e-003	0.1055	0.0642	1.2000e-004	0.0262	5.0900e-003	0.0313	0.0135	4.6900e-003	0.0182	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078

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3.4 Grading - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	2.1000e-004	1.8600e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4116	0.4116	1.0000e-005	0.0000	0.4120
Total	2.5000e-004	2.1000e-004	1.8600e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4116	0.4116	1.0000e-005	0.0000	0.4120

3.5 Building Construction - 2020**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	0.0806	0.7291	0.6402	1.0200e-003		0.0425	0.0425		0.0399	0.0399	0.0000	88.0118	88.0118	0.0215	0.0000	88.5486
Total	0.0806	0.7291	0.6402	1.0200e-003		0.0425	0.0425		0.0399	0.0399	0.0000	88.0118	88.0118	0.0215	0.0000	88.5486

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3.5 Building Construction - 2020**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	4.5200e-003	0.1380	0.0341	3.9000e-004	8.8900e-003	6.3000e-004	9.5200e-003	2.5700e-003	6.0000e-004	3.1700e-003	0.0000	36.9965	36.9965	3.3500e-003	0.0000	37.0804
Worker	0.0141	0.0114	0.1039	2.5000e-004	0.0270	1.7000e-004	0.0272	7.1700e-003	1.6000e-004	7.3300e-003	0.0000	22.9398	22.9398	7.9000e-004	0.0000	22.9594
Total	0.0186	0.1494	0.1380	6.4000e-004	0.0359	8.0000e-004	0.0367	9.7400e-003	7.6000e-004	0.0105	0.0000	59.9363	59.9363	4.1400e-003	0.0000	60.0398

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	0.0806	0.7291	0.6402	1.0200e-003		0.0425	0.0425		0.0399	0.0399	0.0000	88.0117	88.0117	0.0215	0.0000	88.5485
Total	0.0806	0.7291	0.6402	1.0200e-003		0.0425	0.0425		0.0399	0.0399	0.0000	88.0117	88.0117	0.0215	0.0000	88.5485

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3.5 Building Construction - 2020**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	4.5200e-003	0.1380	0.0341	3.9000e-004	8.8900e-003	6.3000e-004	9.5200e-003	2.5700e-003	6.0000e-004	3.1700e-003	0.0000	36.9965	36.9965	3.3500e-003	0.0000	37.0804
Worker	0.0141	0.0114	0.1039	2.5000e-004	0.0270	1.7000e-004	0.0272	7.1700e-003	1.6000e-004	7.3300e-003	0.0000	22.9398	22.9398	7.9000e-004	0.0000	22.9594
Total	0.0186	0.1494	0.1380	6.4000e-004	0.0359	8.0000e-004	0.0367	9.7400e-003	7.6000e-004	0.0105	0.0000	59.9363	59.9363	4.1400e-003	0.0000	60.0398

3.5 Building Construction - 2021**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	0.1464	1.3423	1.2763	2.0700e-003		0.0738	0.0738		0.0694	0.0694	0.0000	178.3607	178.3607	0.0430	0.0000	179.4365
Total	0.1464	1.3423	1.2763	2.0700e-003		0.0738	0.0738		0.0694	0.0694	0.0000	178.3607	178.3607	0.0430	0.0000	179.4365

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3.5 Building Construction - 2021**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	7.9900e-003	0.2535	0.0603	7.9000e-004	0.0180	4.0000e-004	0.0184	5.2000e-003	3.9000e-004	5.5800e-003	0.0000	74.3848	74.3848	6.4700e-003	0.0000	74.5466
Worker	0.0265	0.0206	0.1912	5.0000e-004	0.0547	3.4000e-004	0.0550	0.0145	3.1000e-004	0.0148	0.0000	44.7491	44.7491	1.4200e-003	0.0000	44.7845
Total	0.0345	0.2741	0.2515	1.2900e-003	0.0727	7.4000e-004	0.0734	0.0197	7.0000e-004	0.0204	0.0000	119.1339	119.1339	7.8900e-003	0.0000	119.3312

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	0.1464	1.3423	1.2763	2.0700e-003		0.0738	0.0738		0.0694	0.0694	0.0000	178.3605	178.3605	0.0430	0.0000	179.4363
Total	0.1464	1.3423	1.2763	2.0700e-003		0.0738	0.0738		0.0694	0.0694	0.0000	178.3605	178.3605	0.0430	0.0000	179.4363

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3.5 Building Construction - 2021**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	7.9900e-003	0.2535	0.0603	7.9000e-004	0.0180	4.0000e-004	0.0184	5.2000e-003	3.9000e-004	5.5800e-003	0.0000	74.3848	74.3848	6.4700e-003	0.0000	74.5466
Worker	0.0265	0.0206	0.1912	5.0000e-004	0.0547	3.4000e-004	0.0550	0.0145	3.1000e-004	0.0148	0.0000	44.7491	44.7491	1.4200e-003	0.0000	44.7845
Total	0.0345	0.2741	0.2515	1.2900e-003	0.0727	7.4000e-004	0.0734	0.0197	7.0000e-004	0.0204	0.0000	119.1339	119.1339	7.8900e-003	0.0000	119.3312

3.6 Paving - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	1.7600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0116	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493

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3.6 Paving - 2021**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	7.0000e-004	5.5000e-004	5.0800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1887	1.1887	4.0000e-005	0.0000	1.1897
Total	7.0000e-004	5.5000e-004	5.0800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1887	1.1887	4.0000e-005	0.0000	1.1897

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	1.7600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0116	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493

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3.6 Paving - 2021**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	7.0000e-004	5.5000e-004	5.0800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1887	1.1887	4.0000e-005	0.0000	1.1897
Total	7.0000e-004	5.5000e-004	5.0800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1887	1.1887	4.0000e-005	0.0000	1.1897

3.7 Architectural Coating - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7774					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	1.7793	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019

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3.7 Architectural Coating - 2021**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	6.3000e-004	4.9000e-004	4.5700e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.0699	1.0699	3.0000e-005	0.0000	1.0707
Total	6.3000e-004	4.9000e-004	4.5700e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.0699	1.0699	3.0000e-005	0.0000	1.0707

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7774					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	1.7793	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019

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3.7 Architectural Coating - 2021**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	6.3000e-004	4.9000e-004	4.5700e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.0699	1.0699	3.0000e-005	0.0000	1.0707
Total	6.3000e-004	4.9000e-004	4.5700e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.0699	1.0699	3.0000e-005	0.0000	1.0707

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.2698	2.4190	2.9984	0.0131	0.8798	8.0900e-003	0.8879	0.2358	7.5900e-003	0.2434	0.0000	1,218.8976	1,218.8976	0.0890	0.0000	1,221.1230
Unmitigated	0.2698	2.4190	2.9984	0.0131	0.8798	8.0900e-003	0.8879	0.2358	7.5900e-003	0.2434	0.0000	1,218.8976	1,218.8976	0.0890	0.0000	1,221.1230

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	507.30	507.30	507.30	1,587,695	1,587,695
General Light Industry	136.61	136.61	136.61	427,551	427,551
General Office Building	97.78	97.78	97.78	285,664	285,664
Parking Lot	0.00	0.00	0.00		
Total	741.70	741.70	741.70	2,300,909	2,300,909

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Light Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Office Building	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
Parking Lot	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020

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	495.1328	495.1328	0.0204	4.2300e-003	496.9041
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	495.1328	495.1328	0.0204	4.2300e-003	496.9041
NaturalGas Mitigated	0.0252	0.2288	0.1922	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1089	249.1089	4.7700e-003	4.5700e-003	250.5892
NaturalGas Unmitigated	0.0252	0.2288	0.1922	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1089	249.1089	4.7700e-003	4.5700e-003	250.5892

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

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					
General Heavy Industry	4.00056e+006	0.0216	0.1961	0.1647	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.4851	213.4851	4.0900e-003	3.9100e-003	214.7537
General Light Industry	636804	3.4300e-003	0.0312	0.0262	1.9000e-004		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	33.9823	33.9823	6.5000e-004	6.2000e-004	34.1842
General Office Building	30761.6	1.7000e-004	1.5100e-003	1.2700e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6416	1.6416	3.0000e-005	3.0000e-005	1.6513
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0252	0.2288	0.1922	1.3800e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1089	249.1089	4.7700e-003	4.5600e-003	250.5892

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	4.00056e+006	0.0216	0.1961	0.1647	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.4851	213.4851	4.0900e-003	3.9100e-003	214.7537
General Light Industry	636804	3.4300e-003	0.0312	0.0262	1.9000e-004		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	33.9823	33.9823	6.5000e-004	6.2000e-004	34.1842
General Office Building	30761.6	1.7000e-004	1.5100e-003	1.2700e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6416	1.6416	3.0000e-005	3.0000e-005	1.6513
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0252	0.2288	0.1922	1.3800e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1089	249.1089	4.7700e-003	4.5600e-003	250.5892

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.24979e+006	398.2098	0.0164	3.4000e-003	399.6344
General Light Industry	198940	63.3866	2.6200e-003	5.4000e-004	63.6133
General Office Building	84394.8	26.8900	1.1100e-003	2.3000e-004	26.9862
Parking Lot	20860	6.6464	2.7000e-004	6.0000e-005	6.6702
Total		495.1328	0.0204	4.2300e-003	496.9041

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.24979e+006	398.2098	0.0164	3.4000e-003	399.6344
General Light Industry	198940	63.3866	2.6200e-003	5.4000e-004	63.6133
General Office Building	84394.8	26.8900	1.1100e-003	2.3000e-004	26.9862
Parking Lot	20860	6.6464	2.7000e-004	6.0000e-005	6.6702
Total		495.1328	0.0204	4.2300e-003	496.9041

6.0 Area Detail**6.1 Mitigation Measures Area**

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003
Unmitigated	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-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	0.1777					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003
Total	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003

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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	0.1777					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003
Total	0.7739	3.0000e-005	2.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3700e-003	5.3700e-003	1.0000e-005	0.0000	5.7300e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	157.8680	1.1330	0.0279	194.4948
Unmitigated	157.8680	1.1330	0.0279	194.4948

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	28.4738 / 0	127.1647	0.9327	0.0229	157.3114
General Light Industry	4.5325 / 0	20.2423	0.1485	3.6500e-003	25.0410
General Office Building	1.5765 / 0.966241	10.4611	0.0518	1.3000e-003	12.1424
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		157.8680	1.1330	0.0279	194.4948

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	28.4738 / 0	127.1647	0.9327	0.0229	157.3114
General Light Industry	4.5325 / 0	20.2423	0.1485	3.6500e-003	25.0410
General Office Building	1.5765 / 0.966241	10.4611	0.0518	1.3000e-003	12.1424
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		157.8680	1.1330	0.0279	194.4948

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.6000	2.2221	0.0000	93.1525
Unmitigated	37.6000	2.2221	0.0000	93.1525

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	152.68	30.9927	1.8316	0.0000	76.7830
General Light Industry	24.3	4.9327	0.2915	0.0000	12.2205
General Office Building	8.25	1.6747	0.0990	0.0000	4.1489
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		37.6000	2.2221	0.0000	93.1525

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	152.68	30.9927	1.8316	0.0000	76.7830
General Light Industry	24.3	4.9327	0.2915	0.0000	12.2205
General Office Building	8.25	1.6747	0.0990	0.0000	4.1489
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		37.6000	2.2221	0.0000	93.1525

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Steeno Warehouse - Mojave Desert AQMD Air District, Annual

Equipment Type	Number
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11.0 Vegetation

Steenio Warehouse - Mojave Desert AQMD Air District, Summer

Steenio Warehouse
Mojave Desert AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	123.13	1000sqft	2.83	123,132.00	0
General Light Industry	19.60	1000sqft	0.45	19,600.00	0
General Office Building	8.87	1000sqft	0.20	8,865.00	0
Parking Lot	149.00	Space	1.34	59,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison assumed as utility company. All other values left as defaults.

Land Use -

Vehicle Trips - Consistent with IS/MND.

Steenno Warehouse - Mojave Desert AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.50	4.12
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	ST_TR	2.46	11.03
tblVehicleTrips	SU_TR	1.50	4.12
tblVehicleTrips	SU_TR	0.68	6.97
tblVehicleTrips	SU_TR	1.05	11.03
tblVehicleTrips	WD_TR	1.50	4.12

2.0 Emissions Summary

Steen Warehouse - Mojave Desert AQMD Air District, Summer

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					
2020	4.1652	42.4733	22.2971	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.3688	4,383.3688	1.1971	0.0000	4,401.8832
2021	197.7849	20.9566	20.1872	0.0444	0.9603	0.9682	1.9285	0.2601	0.9103	1.1704	0.0000	4,347.8148	4,347.8148	0.7264	0.0000	4,365.9755
Maximum	197.7849	42.4733	22.2971	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.3688	4,383.3688	1.1971	0.0000	4,401.8832

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					
2020	4.1652	42.4733	22.2971	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.3688	4,383.3688	1.1971	0.0000	4,401.8832
2021	197.7849	20.9566	20.1872	0.0444	0.9603	0.9682	1.9285	0.2601	0.9103	1.1704	0.0000	4,347.8148	4,347.8148	0.7264	0.0000	4,365.9755
Maximum	197.7849	42.4733	22.2971	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.3688	4,383.3688	1.1971	0.0000	4,401.8832

[illegible]

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

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	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Energy	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744
Mobile	1.7904	13.1320	18.1883	0.0769	4.9200	0.0443	4.9643	1.3167	0.0416	1.3583		7,859.4468	7,859.4468	0.5297		7,872.6887
Total	6.1704	14.3861	19.2723	0.0844	4.9200	0.1397	5.0597	1.3167	0.1370	1.4537		9,364.1457	9,364.1457	0.5587	0.0276	9,386.3332

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	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Energy	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744
Mobile	1.7904	13.1320	18.1883	0.0769	4.9200	0.0443	4.9643	1.3167	0.0416	1.3583		7,859.4468	7,859.4468	0.5297		7,872.6887
Total	6.1704	14.3861	19.2723	0.0844	4.9200	0.1397	5.0597	1.3167	0.1370	1.4537		9,364.1457	9,364.1457	0.5587	0.0276	9,386.3332

Steen Warehouse - Mojave Desert AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2020	8/28/2020	5	20	
2	Site Preparation	Site Preparation	8/29/2020	9/4/2020	5	5	
3	Grading	Grading	9/5/2020	9/16/2020	5	8	
4	Building Construction	Building Construction	9/17/2020	8/4/2021	5	230	
5	Paving	Paving	8/5/2021	8/30/2021	5	18	
6	Architectural Coating	Architectural Coating	8/31/2021	9/23/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,396; Non-Residential Outdoor: 75,799; Striped Parking Area: 3,576 (Architectural Coating – sqft)

OffRoad Equipment

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Steenio Warehouse - Mojave Desert AQMD Air District, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	88.00	35.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.2 Demolition - 2020**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
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
Worker	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884
Total	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.2 Demolition - 2020**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
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
Worker	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884
Total	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884

3.3 Site Preparation - 2020**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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.3 Site Preparation - 2020**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
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
Worker	0.0888	0.0559	0.6527	1.5100e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		150.3351	150.3351	5.2400e-003		150.4661
Total	0.0888	0.0559	0.6527	1.5100e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		150.3351	150.3351	5.2400e-003		150.4661

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.3 Site Preparation - 2020**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
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
Worker	0.0888	0.0559	0.6527	1.5100e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		150.3351	150.3351	5.2400e-003		150.4661
Total	0.0888	0.0559	0.6527	1.5100e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		150.3351	150.3351	5.2400e-003		150.4661

3.4 Grading - 2020**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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.4851	2,872.4851	0.9290		2,895.7106

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.4 Grading - 2020**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
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
Worker	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884
Total	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.4 Grading - 2020**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
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
Worker	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884
Total	0.0740	0.0466	0.5439	1.2600e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		125.2793	125.2793	4.3700e-003		125.3884

3.5 Building Construction - 2020**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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.5 Building Construction - 2020**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
Vendor	0.1163	3.6060	0.8167	0.0105	0.2374	0.0165	0.2538	0.0684	0.0157	0.0841		1,095.334 1	1,095.334 1	0.0921		1,097.636 6
Worker	0.4340	0.2734	3.1911	7.3900e-003	0.7229	4.5800e-003	0.7275	0.1918	4.2200e-003	0.1960		734.9717	734.9717	0.0256		735.6121
Total	0.5503	3.8793	4.0077	0.0179	0.9603	0.0210	0.9813	0.2601	0.0200	0.2801		1,830.305 7	1,830.305 7	0.1177		1,833.248 7

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.5 Building Construction - 2020**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
Vendor	0.1163	3.6060	0.8167	0.0105	0.2374	0.0165	0.2538	0.0684	0.0157	0.0841		1,095.334 1	1,095.334 1	0.0921		1,097.636 6
Worker	0.4340	0.2734	3.1911	7.3900e-003	0.7229	4.5800e-003	0.7275	0.1918	4.2200e-003	0.1960		734.9717	734.9717	0.0256		735.6121
Total	0.5503	3.8793	4.0077	0.0179	0.9603	0.0210	0.9813	0.2601	0.0200	0.2801		1,830.305 7	1,830.305 7	0.1177		1,833.248 7

3.5 Building Construction - 2021**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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.5 Building Construction - 2021**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
Vendor	0.1013	3.2810	0.7063	0.0104	0.2374	5.2000e-003	0.2426	0.0684	4.9700e-003	0.0733		1,086.9305	1,086.9305	0.0876		1,089.1215
Worker	0.4019	0.2435	2.9057	7.1100e-003	0.7229	4.4200e-003	0.7273	0.1918	4.0700e-003	0.1958		707.5205	707.5205	0.0228		708.0897
Total	0.5031	3.5245	3.6120	0.0175	0.9603	9.6200e-003	0.9699	0.2601	9.0400e-003	0.2692		1,794.4509	1,794.4509	0.1104		1,797.2112

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.5 Building Construction - 2021**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
Vendor	0.1013	3.2810	0.7063	0.0104	0.2374	5.2000e-003	0.2426	0.0684	4.9700e-003	0.0733		1,086.9305	1,086.9305	0.0876		1,089.1215
Worker	0.4019	0.2435	2.9057	7.1100e-003	0.7229	4.4200e-003	0.7273	0.1918	4.0700e-003	0.1958		707.5205	707.5205	0.0228		708.0897
Total	0.5031	3.5245	3.6120	0.0175	0.9603	9.6200e-003	0.9699	0.2601	9.0400e-003	0.2692		1,794.4509	1,794.4509	0.1104		1,797.2112

3.6 Paving - 2021**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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2890	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.6 Paving - 2021**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
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
Worker	0.0913	0.0553	0.6604	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		160.8001	160.8001	5.1700e-003		160.9295
Total	0.0913	0.0553	0.6604	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		160.8001	160.8001	5.1700e-003		160.9295

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2890	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270

Steen Warehouse - Mojave Desert AQMD Air District, Summer

3.6 Paving - 2021**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
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
Worker	0.0913	0.0553	0.6604	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		160.8001	160.8001	5.1700e-003		160.9295
Total	0.0913	0.0553	0.6604	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		160.8001	160.8001	5.1700e-003		160.9295

3.7 Architectural Coating - 2021**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	197.4838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	197.7027	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.7 Architectural Coating - 2021**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
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
Worker	0.0822	0.0498	0.5944	1.4500e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		144.7201	144.7201	4.6600e-003		144.8365
Total	0.0822	0.0498	0.5944	1.4500e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		144.7201	144.7201	4.6600e-003		144.8365

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	197.4838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	197.7027	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Steeno Warehouse - Mojave Desert AQMD Air District, Summer

3.7 Architectural Coating - 2021**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
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
Worker	0.0822	0.0498	0.5944	1.4500e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		144.7201	144.7201	4.6600e-003		144.8365
Total	0.0822	0.0498	0.5944	1.4500e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		144.7201	144.7201	4.6600e-003		144.8365

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Steen Warehouse - Mojave Desert AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.7904	13.1320	18.1883	0.0769	4.9200	0.0443	4.9643	1.3167	0.0416	1.3583		7,859.4468	7,859.4468	0.5297		7,872.6887
Unmitigated	1.7904	13.1320	18.1883	0.0769	4.9200	0.0443	4.9643	1.3167	0.0416	1.3583		7,859.4468	7,859.4468	0.5297		7,872.6887

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	507.30	507.30	507.30	1,587,695	1,587,695
General Light Industry	136.61	136.61	136.61	427,551	427,551
General Office Building	97.78	97.78	97.78	285,664	285,664
Parking Lot	0.00	0.00	0.00		
Total	741.70	741.70	741.70	2,300,909	2,300,909

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Steen0 Warehouse - Mojave Desert AQMD Air District, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Light Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Office Building	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
Parking Lot	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744
NaturalGas Unmitigated	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

Steen Warehouse - Mojave Desert AQMD Air District, Summer

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					
General Heavy Industry	10960.4	0.1182	1.0746	0.9026	6.4500e-003		0.0817	0.0817		0.0817	0.0817		1,289.4629	1,289.4629	0.0247	0.0236	1,297.1255
General Light Industry	1744.67	0.0188	0.1711	0.1437	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.2551	205.2551	3.9300e-003	3.7600e-003	206.4749
General Office Building	84.2782	9.1000e-004	8.2600e-003	6.9400e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		9.9151	9.9151	1.9000e-004	1.8000e-004	9.9740
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1379	1.2539	1.0532	7.5300e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

Steen Warehouse - Mojave Desert AQMD Air District, Summer

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					
General Heavy Industry	10.9604	0.1182	1.0746	0.9026	6.4500e-003		0.0817	0.0817		0.0817	0.0817		1,289.4629	1,289.4629	0.0247	0.0236	1,297.1255
General Light Industry	1.74467	0.0188	0.1711	0.1437	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.2551	205.2551	3.9300e-003	3.7600e-003	206.4749
General Office Building	0.0842782	9.1000e-004	8.2600e-003	6.9400e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		9.9151	9.9151	1.9000e-004	1.8000e-004	9.9740
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1379	1.2539	1.0532	7.5300e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

6.0 Area Detail**6.1 Mitigation Measures Area**

Steen Warehouse - Mojave Desert AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Unmitigated	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

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	0.9739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2653					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8600e-003	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Total	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

Steen0 Warehouse - Mojave Desert AQMD Air District, Summer

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	0.9739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2653					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8600e-003	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Total	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

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
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Steen Warehouse - Mojave Desert AQMD Air District, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

Steeno Warehouse
Mojave Desert AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	123.13	1000sqft	2.83	123,132.00	0
General Light Industry	19.60	1000sqft	0.45	19,600.00	0
General Office Building	8.87	1000sqft	0.20	8,865.00	0
Parking Lot	149.00	Space	1.34	59,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison assumed as utility company. All other values left as defaults.

Land Use -

Vehicle Trips - Consistent with IS/MND.

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.50	4.12
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	ST_TR	2.46	11.03
tblVehicleTrips	SU_TR	1.50	4.12
tblVehicleTrips	SU_TR	0.68	6.97
tblVehicleTrips	SU_TR	1.05	11.03
tblVehicleTrips	WD_TR	1.50	4.12

2.0 Emissions Summary

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

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					
2020	4.1601	42.4748	22.1875	0.0434	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,241.1268	4,241.1268	1.1963	0.0000	4,259.8379
2021	197.7803	20.8985	19.7332	0.0431	0.9603	0.9684	1.9286	0.2601	0.9104	1.1706	0.0000	4,209.1405	4,209.1405	0.7345	0.0000	4,227.5032
Maximum	197.7803	42.4748	22.1875	0.0434	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,241.1268	4,241.1268	1.1963	0.0000	4,259.8379

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					
2020	4.1601	42.4748	22.1875	0.0434	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,241.1268	4,241.1268	1.1963	0.0000	4,259.8379
2021	197.7803	20.8985	19.7332	0.0431	0.9603	0.9684	1.9286	0.2601	0.9104	1.1706	0.0000	4,209.1405	4,209.1405	0.7345	0.0000	4,227.5032
Maximum	197.7803	42.4748	22.1875	0.0434	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,241.1268	4,241.1268	1.1963	0.0000	4,259.8379

[illegible]

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

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	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Energy	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.633 1	1,504.633 1	0.0288	0.0276	1,513.574 4
Mobile	1.5211	12.9307	15.7976	0.0700	4.9200	0.0448	4.9648	1.3167	0.0420	1.3587		7,160.413 9	7,160.413 9	0.5600		7,174.413 8
Total	5.9010	14.1848	16.8816	0.0775	4.9200	0.1402	5.0602	1.3167	0.1374	1.4541		8,665.112 8	8,665.112 8	0.5890	0.0276	8,688.058 3

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	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Energy	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.633 1	1,504.633 1	0.0288	0.0276	1,513.574 4
Mobile	1.5211	12.9307	15.7976	0.0700	4.9200	0.0448	4.9648	1.3167	0.0420	1.3587		7,160.413 9	7,160.413 9	0.5600		7,174.413 8
Total	5.9010	14.1848	16.8816	0.0775	4.9200	0.1402	5.0602	1.3167	0.1374	1.4541		8,665.112 8	8,665.112 8	0.5890	0.0276	8,688.058 3

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2020	8/28/2020	5	20	
2	Site Preparation	Site Preparation	8/29/2020	9/4/2020	5	5	
3	Grading	Grading	9/5/2020	9/16/2020	5	8	
4	Building Construction	Building Construction	9/17/2020	8/4/2021	5	230	
5	Paving	Paving	8/5/2021	8/30/2021	5	18	
6	Architectural Coating	Architectural Coating	8/31/2021	9/23/2021	5	18	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 4****Acres of Paving: 1.34****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,396; Non-Residential Outdoor: 75,799; Striped Parking Area: 3,576 (Architectural Coating – sqft)****OffRoad Equipment**

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	88.00	35.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.2 Demolition - 2020**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
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
Worker	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087
Total	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.2 Demolition - 2020**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
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
Worker	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087
Total	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087

3.3 Site Preparation - 2020**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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.3 Site Preparation - 2020**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
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
Worker	0.0836	0.0575	0.5211	1.3300e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		132.0185	132.0185	4.4800e-003		132.1305
Total	0.0836	0.0575	0.5211	1.3300e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		132.0185	132.0185	4.4800e-003		132.1305

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.3 Site Preparation - 2020**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
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
Worker	0.0836	0.0575	0.5211	1.3300e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		132.0185	132.0185	4.4800e-003		132.1305
Total	0.0836	0.0575	0.5211	1.3300e-003	0.1479	9.4000e-004	0.1488	0.0392	8.6000e-004	0.0401		132.0185	132.0185	4.4800e-003		132.1305

3.4 Grading - 2020**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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.485 1	2,872.485 1	0.9290		2,895.710 6

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.4 Grading - 2020**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
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
Worker	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087
Total	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.4 Grading - 2020**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
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
Worker	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087
Total	0.0697	0.0479	0.4343	1.1100e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		110.0154	110.0154	3.7300e-003		110.1087

3.5 Building Construction - 2020**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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.5 Building Construction - 2020**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
Vendor	0.1237	3.5477	0.9599	9.9900e-003	0.2374	0.0166	0.2540	0.0684	0.0159	0.0842		1,042.640 1	1,042.640 1	0.1037		1,045.232 3
Worker	0.4088	0.2810	2.5478	6.4800e-003	0.7229	4.5800e-003	0.7275	0.1918	4.2200e-003	0.1960		645.4237	645.4237	0.0219		645.9711
Total	0.5326	3.8287	3.5076	0.0165	0.9603	0.0212	0.9815	0.2601	0.0201	0.2802		1,688.063 7	1,688.063 7	0.1256		1,691.203 4

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.5 Building Construction - 2020**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
Vendor	0.1237	3.5477	0.9599	9.9900e-003	0.2374	0.0166	0.2540	0.0684	0.0159	0.0842		1,042.640 1	1,042.640 1	0.1037		1,045.232 3
Worker	0.4088	0.2810	2.5478	6.4800e-003	0.7229	4.5800e-003	0.7275	0.1918	4.2200e-003	0.1960		645.4237	645.4237	0.0219		645.9711
Total	0.5326	3.8287	3.5076	0.0165	0.9603	0.0212	0.9815	0.2601	0.0201	0.2802		1,688.063 7	1,688.063 7	0.1256		1,691.203 4

3.5 Building Construction - 2021**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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.5 Building Construction - 2021**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
Vendor	0.1084	3.2163	0.8428	9.9100e-003	0.2374	5.3300e-003	0.2427	0.0684	5.0900e-003	0.0735		1,034.4112	1,034.4112	0.0990		1,036.8864
Worker	0.3794	0.2502	2.3152	6.2400e-003	0.7229	4.4200e-003	0.7273	0.1918	4.0700e-003	0.1958		621.3654	621.3654	0.0195		621.8525
Total	0.4878	3.4664	3.1580	0.0162	0.9603	9.7500e-003	0.9700	0.2601	9.1600e-003	0.2693		1,655.7766	1,655.7766	0.1185		1,658.7389

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.5 Building Construction - 2021**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
Vendor	0.1084	3.2163	0.8428	9.9100e-003	0.2374	5.3300e-003	0.2427	0.0684	5.0900e-003	0.0735		1,034.4112	1,034.4112	0.0990		1,036.8864
Worker	0.3794	0.2502	2.3152	6.2400e-003	0.7229	4.4200e-003	0.7273	0.1918	4.0700e-003	0.1958		621.3654	621.3654	0.0195		621.8525
Total	0.4878	3.4664	3.1580	0.0162	0.9603	9.7500e-003	0.9700	0.2601	9.1600e-003	0.2693		1,655.7766	1,655.7766	0.1185		1,658.7389

3.6 Paving - 2021**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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2890	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.6 Paving - 2021**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
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
Worker	0.0862	0.0569	0.5262	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		141.2194	141.2194	4.4300e-003		141.3301
Total	0.0862	0.0569	0.5262	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		141.2194	141.2194	4.4300e-003		141.3301

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2890	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.6 Paving - 2021**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
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
Worker	0.0862	0.0569	0.5262	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		141.2194	141.2194	4.4300e-003		141.3301
Total	0.0862	0.0569	0.5262	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.3000e-004	0.0445		141.2194	141.2194	4.4300e-003		141.3301

3.7 Architectural Coating - 2021**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	197.4838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	197.7027	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.7 Architectural Coating - 2021**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
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
Worker	0.0776	0.0512	0.4736	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		127.0975	127.0975	3.9900e-003		127.1971
Total	0.0776	0.0512	0.4736	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		127.0975	127.0975	3.9900e-003		127.1971

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	197.4838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	197.7027	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

3.7 Architectural Coating - 2021**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
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
Worker	0.0776	0.0512	0.4736	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		127.0975	127.0975	3.9900e-003		127.1971
Total	0.0776	0.0512	0.4736	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.3000e-004	0.0401		127.0975	127.0975	3.9900e-003		127.1971

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.5211	12.9307	15.7976	0.0700	4.9200	0.0448	4.9648	1.3167	0.0420	1.3587		7,160.4139	7,160.4139	0.5600		7,174.4138
Unmitigated	1.5211	12.9307	15.7976	0.0700	4.9200	0.0448	4.9648	1.3167	0.0420	1.3587		7,160.4139	7,160.4139	0.5600		7,174.4138

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	507.30	507.30	507.30	1,587,695	1,587,695
General Light Industry	136.61	136.61	136.61	427,551	427,551
General Office Building	97.78	97.78	97.78	285,664	285,664
Parking Lot	0.00	0.00	0.00		
Total	741.70	741.70	741.70	2,300,909	2,300,909

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Light Industry	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
General Office Building	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020
Parking Lot	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744
NaturalGas Unmitigated	0.1379	1.2539	1.0532	7.5200e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

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					
General Heavy Industry	10960.4	0.1182	1.0746	0.9026	6.4500e-003		0.0817	0.0817		0.0817	0.0817		1,289.4629	1,289.4629	0.0247	0.0236	1,297.1255
General Light Industry	1744.67	0.0188	0.1711	0.1437	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.2551	205.2551	3.9300e-003	3.7600e-003	206.4749
General Office Building	84.2782	9.1000e-004	8.2600e-003	6.9400e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		9.9151	9.9151	1.9000e-004	1.8000e-004	9.9740
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1379	1.2539	1.0532	7.5300e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

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					
General Heavy Industry	10.9604	0.1182	1.0746	0.9026	6.4500e-003		0.0817	0.0817		0.0817	0.0817		1,289.4629	1,289.4629	0.0247	0.0236	1,297.1255
General Light Industry	1.74467	0.0188	0.1711	0.1437	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.2551	205.2551	3.9300e-003	3.7600e-003	206.4749
General Office Building	0.0842782	9.1000e-004	8.2600e-003	6.9400e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		9.9151	9.9151	1.9000e-004	1.8000e-004	9.9740
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1379	1.2539	1.0532	7.5300e-003		0.0953	0.0953		0.0953	0.0953		1,504.6331	1,504.6331	0.0288	0.0276	1,513.5744

6.0 Area Detail**6.1 Mitigation Measures Area**

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Unmitigated	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

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	0.9739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2653					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8600e-003	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Total	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

Steeno Warehouse - Mojave Desert AQMD Air District, Winter

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	0.9739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2653					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8600e-003	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701
Total	4.2420	2.8000e-004	0.0307	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0658	0.0658	1.7000e-004		0.0701

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
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Steen Warehouse - Mojave Desert AQMD Air District, Winter

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

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

Equipment Type	Number
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11.0 Vegetation



Technical Consultation, Data Analysis and
Litigation Support for the Environment

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

**Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
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 25 years of experience in environmental policy, assessment and remediation. 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) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- 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 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, 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 industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- 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.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

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 taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hagemann, M. F., 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 examination, 2009-2011.



Paul Rosenfeld, Ph.D.

Principal Environmental Chemist

Chemical Fate and Transport & Air Dispersion Modeling

Risk Assessment & Remediation Specialist

Education:

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC 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 is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H₂O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Publications:

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 Aermოდ 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.

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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. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology*.

Rosenfeld, P.E., Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007). The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities. *Water Science And Technology*.

- Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.
- Rosenfeld P. E.,** J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.
- Rosenfeld, P.E.,** and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.
- Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.
- Rosenfeld, P. E.,** Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.
- Rosenfeld, P.E.,** Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS-6), Sacramento, CA Publication #442-02-008.
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- Rosenfeld, P.E.,** C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.
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- Rosenfeld, P.E.,** and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.
- Chollack, T. and **P. Rosenfeld**. (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.
- Rosenfeld, P. E.** (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).
- Rosenfeld, P. E.** (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).
- Rosenfeld, P. E.** (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.
- Rosenfeld, P. E.** (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.
- Rosenfeld, P. E.** (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

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

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

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

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

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

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

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

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

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

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

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in 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 Conference.* Lecture conducted from Indianapolis, Maryland.

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

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

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

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

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

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

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

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

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

Teaching Experience:

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

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

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

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

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

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

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

Academic Grants Awarded:

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

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

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

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

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

United State Forest Service, Tahoe National Forest: \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Deposition and/or Trial Testimony:

In The Superior Court of the State of California, County of 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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No.: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al., et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No.: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward
DeRuyter, Defendants
Rosenfeld Deposition: July 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 United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City
Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 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 Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

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 Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

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

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation
A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100,
inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive,
Defendants.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

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 Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust;
Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a
California Corporation; and DOES 1 through 100, *Defendants*.
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware
Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a
California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma
corporation; and DOES 1 through 100, *Defendants*.
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens
Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil
Chemical Co., *Defendants*.
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants*.
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant*.
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and
on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant*.
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



March 13, 2020
Sent via email

Ryan Leonard
AICP, Senior Planner
City of Hesperia Development Services Dept.
9700 Seventh Ave.
Hesperia, CA 92345

SITE PLAN REVIEW (SPR19-00015) (PROJECT)
MITIGATED NEGATIVE DECLARATION (MND)
SCH# 2020029035

Dear Mr. Leonard:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from City of Hesperia for the Project (or Project Area) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines¹.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802.) Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: Steeno Design Studio

Objective: The objective of the Project is to construct a 123,748 square foot manufacturing/industrial building and 865 square foot administrative office building. Primary Project activities include construction of the buildings, parking, landscaping, and sidewalk improvements resulting in development of approximately 8.2 acres of habitat.

Location: City of Hesperia, San Bernardino County, southeast corner of Highway 395 and Popular Street, 34.414743°, -117.398229°

Timeframe: Unknown

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist City of Hesperia in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document. Based on the Project's avoidance of significant impacts on biological resources with implementation of mitigation measures, including those CDFW recommends in Attachment A, CDFW concludes that a Mitigated Negative Declaration is appropriate for the Project.

I. Mitigation Measure and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

COMMENT 1: Mitigation Measure 1

Page 2 of MND

Issue: CDFW appreciates City of Hesperia conditioned the environmental document to require pre-construction surveys for burrowing owls, a Species of Special Concern. However, the City did not provide any additional avoidance, minimization,

and mitigation measures to reduce significant impacts to burrowing owls should the pre-construction survey confirm presence.

Specific impact: Burrowing owls have been documented in the area (CNNDB, 2020). The Project and Project-related activities have potential to take burrowing owl individuals and their nests and may result in loss of burrowing owl habitat.

Why impact would occur: Potentially significant impacts to burrowing owls are not mitigated to the extent feasible.

Evidence impact would be significant: Take of individual burrowing owls and their nests is defined by FGC section 86, and prohibited by sections 3503, 3503.5 and 3513. Take is defined in FGC Section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Burrowing owls are dependent on burrows at all times of the year for survival and/or reproduction, evicting them from nesting, roosting, and satellite burrows may lead to indirect impacts or take. Temporary or permanent closure of burrows may result in significant loss of burrows and habitat for reproduction and other life history requirements. Depending on the proximity and availability of alternate habitat, loss of access to burrows will likely result in varying levels of increased stress on burrowing owls and could depress reproduction, increase predation, increase energetic costs, and introduce risks posed by having to find and compete for available burrows (CDFG, 2012).

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the City of Hesperia update Mitigation Measure 1 to include the following:

Pre-construction Burrowing Owl Surveys. Burrowing owl surveys shall be conducted at least 30 days prior to any Project activities, at any time of year. Surveys shall be completed following the recommendations and guidelines provided within the *Staff Report on Burrowing Owl Mitigation* (CDFG, March 2012) or most recent version by a qualified biologist. If an active burrowing owl burrow is detected within any project disturbance area, or within a 500-foot buffer of the disturbance area(s), a 300-foot radius buffer zone surrounding the burrow shall be flagged, and no impacts to soils or vegetation or noise levels above 65 dBA shall be permitted while the burrow remains active or occupied. Disturbance-free buffers may be modified based on site-specific conditions in consultation with CDFW. The qualified biologist shall monitor active burrows daily and will increase buffer sizes as needed if owls show signs of disturbance. If active burrowing owl burrows are located within any work area, a qualified biologist shall submit a burrowing owl exclusion plan to CDFW for review

and approval. Passive relocation shall take place outside the nesting season (1 February to 31 August).

II. Environmental Setting and Related Impact Shortcoming

Would the Project interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites?

COMMENT 2: Nesting Birds

Issue: CDFW has concerns the environmental document lacks a mitigation measure for avoiding significant impacts to nesting birds.

Specific impact: Project activities have the potential to take nesting bird individuals and their nest.

Why impact would occur: A potentially significant impact to nesting birds is not evaluated in the MND, therefore the impact is not mitigated to the extent feasible.

Evidence impact would be significant: Fish and Game Code 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code Section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Environmental Setting and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Nesting Birds. All Project activities shall be conducted outside of nesting season (January 15 to August 31) to the maximum extent feasible. During the nesting bird season, a qualified biologist shall conduct pre-project nesting bird surveys, implement nest buffers, and conduct monitoring at all active nests within

the work area and surrounding 300-foot buffer. Nesting bird surveys shall be conducted by a qualified biologist within 300 feet of all work areas, no more than 3 days prior to commencement of project activities. If active nests containing eggs or young are found, a qualified biologist shall establish an appropriate nest buffer. Nest buffers are species-specific and may range from 15 to 100 feet for passerines and 50 to 300 feet for raptors, depending on the planned activity's level of disturbance, site conditions, and the observed bird behavior. Established buffers shall remain until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests shall be monitored until the biologist has determined the young have fledged or the Project is finished. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Comment 3: Desert Kit Fox and American Badger

Issue: It is unclear from The General Biological Resources Assessment performed by RCA Associates if the potential presence of desert kit fox and American badger in the Project Area or surrounding area was evaluated.

Specific impact: Project activities have the potential to take desert kit fox and American badger, and development may result in loss of habitat and/or foraging habitat.

Why impact would occur: The environmental document did not assess habitat suitability or potential for presence of the species, therefore lacks avoidance, minimization, and mitigation measures for the species.

Evidence impact would be significant: Desert kit fox are a protected species and may not be taken at any time pursuant to Title 14 of the California Code of Regulations Section 460. American badger is a Species of Special Concern.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Pre-Construction Desert Kit Fox and American Badger Surveys. No more than 30 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct a survey to determine if potential desert kit fox or American badger burrows are present in the Project Area. If potential

burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall verify there are suitable burrows outside of the Project Area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3-5 day period. After the qualified biologist has determined there are no active burrows the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile desert kit fox and juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present.

Comment 4: Sensitive Plant Species

Issue: The General Biological Resources Assessment performed by RCA Associates, Inc. describes the methods of the general plant survey as walking meandering transects to document plants present on site and the surrounding area. It is unclear if the entire Project area was systematically covered, and all plants were identified to the taxonomic level necessary to determine rarity and listing status. Additionally, Table 1, page 21 of the assessment notes that the list of plants provided is not intended to be a comprehensive list of every plant that may occur in the Project area or surrounding area.

Specific impact: The Project has potential to impact sensitive plant species that were not identified during the general plant survey during September 2019, and the environmental document lacks avoidance, minimization, and mitigation measures should presence be confirmed.

Why impact would occur: Botanical field surveys should be conducted during times of year when plants are evident and identifiable (i.e. flowering or fruiting), which may warrant multiple surveys during the season to capture floristic diversity (CDFW, 2018). Habitats, such as desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment (CDFW, 2018).

Evidence impact would be significant: Sensitive plant species are listed under the California Endangered Species Act (CESA) as threatened, or endangered, or proposed or candidates for listing; designated as rare under the Native Plant Protection Act; or plants that otherwise meet the definition of rare, threatened, or endangered species under CEQA. Plants constituting California Rare Plant Ranks 1A, 1B, 2A, and 2B generally meet the criteria of a CESA listed species and should

be considered as an endangered, rare or threatened species for the purposes of CEQA analysis. Take of any CESA-listed species is prohibited except as authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Fish and Game Code Sections 1900–1913 includes provisions that prohibit the take of endangered and rare plants from the wild and a salvage requirement for landowners.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure: CDFW recommends the inclusion of the following new measure in the Final MND:

MM BIO-[X]: Sensitive Plant Species. A thorough floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, March 2018) or most recent version shall be performed by a qualified biologist prior to commencing Project activities. Should any state-listed plant species be present in the Project Area, the Project Proponent shall obtain an ITP for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project Area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from annual species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.

Comment 5: Mohave Ground Squirrel

Issue: The General Biological Resources Assessment performed by RCA Associates, Inc. states the Project Area is within the distribution of Mohave ground squirrel, a threatened species. Additionally, Table 1-1 states the site supports suitable habitat for the species, and the species has been documented in the area.

Specific impact: The Project is within Mohave ground squirrel distribution range, and Project activities have the potential to take Mohave ground squirrels.

Why impact would occur: Protocol surveys were not performed during the appropriate time of year to determine Mohave ground squirrel presence, and the environmental document lacks avoidance, minimization, and mitigation measures for the species should presence be confirmed.

Evidence impact would be significant: Mohave ground squirrel is a CESA-listed species and take (hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill) is prohibited unless authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Information on how to obtain an ITP can be found at <https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits>.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measures in the Final MND:

MM BIO-[X]: Pre-Construction Surveys for Mohave Ground Squirrel. Pre-construction surveys following the *Mohave Ground Squirrel Survey Guidelines* (CDFG, 2010) or most recent version shall be performed by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW. The preconstruction surveys shall cover the Project Area and a 50-foot buffer zone. Should Mohave ground squirrel presence be confirmed during the survey, the Project Proponent shall obtain an ITP for Mohave ground squirrel prior to the start of Project activities. CDFW shall be notified if Mohave ground squirrel presence is confirmed during the pre-construction survey.

MM BIO-[X]: Mohave Ground Squirrel Observations. If a Mohave ground squirrel is observed during Project Activities, and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.

Comment 6: Desert Tortoise

Issue: CDFW has concerns the environmental document does not include a mitigation measure should desert tortoise be present on the site prior to commencement of Project activities.

Specific impact: The Project is within desert tortoise distribution range, and Project activities have the potential to take desert tortoise.

Why impact would occur: The environmental document lacks avoidance, minimization, and mitigation measures for the species should presence be confirmed.

Evidence impact would be significant: Desert tortoise is a CESA-listed species and take (hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill) is prohibited unless authorized by state law (Fish and Game Code, §§ 2080 & 2085). If the Project, including the Project construction or any Project-related activity during the life of the Project, results in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation through an incidental take permit. Information on how to obtain an ITP can be found at <https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits>.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)

Mitigation Measure:

To minimize significant impacts: CDFW recommends the inclusion of the following new measures in the Final MND:

MM BIO-[X]: Pre-Construction Desert Tortoise Surveys. No more than 30 calendar days prior to start of Project activities a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the most recent United States Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project Area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project Activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the Project Proponent shall obtain an ITP for desert tortoise prior to the start of Project activities. Should desert tortoise presence be confirmed during the survey the qualified biologist shall notify CDFW.

MM BIO-[X]: Desert Tortoise Observations. If a desert tortoise is observed during Project Activities and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.

III. Editorial Comments and/or Suggestions

Section IV, Page 10 of MND

In response to the question, "Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?" the Lead Agency selected "No Impact". CDFW suggests the Lead Agency reconsider their selection due to the potential impacts to the species noted above.

Additional Mitigation Measures

CDFW recommends the inclusion of the following new mitigation measures to reduce potential impacts to biological resources within the Project area:

MM BIO-[X]: On-site Education. A qualified biologist shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. Education should include but not be limited to desert tortoise, burrowing owl, desert kit fox, American badger, nesting birds, and special-status plants. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site.

MM BIO-[X]: Minimize Impacts on Other Species. A qualified biologist shall be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with authorization by CDFW shall move CESA-listed species.

ENVIRONMENTAL DATA

Ryan Leonard, AICP, Senior Planner
City of Hesperia Development Services Dept.
March 13, 2020
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CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist City of Hesperia in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ashley Rosales, Environmental Scientist at 909-980-8607 or Ashley.Rosales@Wildlife.ca.gov.

Sincerely,



Scott Wilson
Environmental Program Manager

Attachment: Draft Mitigation Monitoring and Reporting Program for CDFW-proposed Mitigation Measures.

ec: Office of Planning and Research, State Clearinghouse, Sacramento

HCPB CEQA Coordinator
Habitat Conservation Planning Branch

RESOURCES

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline>)

California Department of Fish and Game (CDFG). 2010. Mohave Ground Squirrel Survey Guidelines.
(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83975&inline>)

California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.
(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>)

California Natural Diversity Database (CNDDDB) Government [ds45]. 2020. Calif. Dept. of Fish and Wildlife. Biogeographic Information and Observation System.

ATTACHMENT 1

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure compliance with mitigation measures during project implementation. Mitigation measures must be implemented within the time periods indicated in the table below.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Implementation Schedule, and Responsible Party for implementing the mitigation measure. The Mitigation Measure column summarizes the mitigation requirements. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure.

Mitigation Measure	Implementation Schedule	Responsible Party
<p><u>Pre-construction Burrowing Owl Surveys.</u></p> <p>Burrowing owl surveys shall be conducted at least 30 days prior to any Project activities, at any time of year. Surveys shall be completed following the recommendations and guidelines provided within the <i>Staff Report on Burrowing Owl Mitigation</i> (CDFG, March 2012) or most recent version by a qualified biologist. If an active burrowing owl burrow is detected within any project disturbance area, or within a 500-foot buffer of the disturbance area(s), a 300- foot radius buffer zone surrounding the burrow shall be flagged, and no impacts to soils or vegetation or noise levels above 65 dBA shall be permitted while the burrow remains active or occupied. Disturbance-free buffers may be modified based on site-specific conditions in consultation with CDFW. The qualified biologist will monitor active burrows daily and will increase buffer sizes as needed if owls show signs of disturbance. If active burrowing owl burrows are located within any work area, a qualified biologist shall submit a burrowing owl exclusion plan to CDFW for review and approval. Passive relocation shall take place</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>

outside the nesting season (1 February to 31 August).		
<p><u>Nesting Birds.</u> All Project activities shall be conducted outside of nesting season (January 15 to August 31) to the maximum extent feasible. During the nesting bird season, a qualified biologist shall conduct pre-project nesting bird surveys, implement nest buffers, and conduct monitoring at all active nests within the work area and surrounding 300-foot buffer. Nesting bird surveys shall be conducted by a qualified biologist within 300 feet of all work areas, no more than 3 days prior to commencement of project activities. If active nests containing eggs or young are found, a qualified biologist shall establish an appropriate nest buffer. Nest buffers are species-specific and may range from 15 to 100 feet for passerines and 50 to 300 feet for raptors, depending on the planned activity's level of disturbance, site conditions, and the observed bird behavior. Established buffers shall remain until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests shall be monitored until the biologist has determined the young have fledged or the Project is finished. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.</p>	Before commencing ground- or vegetation-disturbing activities/Entire Project	Project Proponent
<p><u>Pre-Construction Desert Kit Fox and American Badger Surveys.</u> No more than 30 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct a survey to determine if potential desert kit fox or American badger burrows are present in the Project Area. If potential burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall verify there are suitable burrows outside of the Project Area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive</p>	Before commencing ground- or vegetation-disturbing activities/Entire project	Project Proponent

<p>relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3-5 day period. After the qualified biologist has determined there are no active burrows the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile desert kit fox and juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present.</p>		
<p>Should any state-listed plant species be present in the Project Area, the Project Proponent shall obtain an ITP for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project Area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from annual species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project/Post Construction</p>	<p>Project Proponent</p>

<p><u>Pre-Construction Surveys for Mohave Ground Squirrel.</u> Pre-construction surveys following the <i>Mohave Ground Squirrel Survey Guidelines</i> (CDFG, 2010) or most recent version shall be performed by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW. The preconstruction surveys shall cover the Project Area and a 50-foot buffer zone. Should Mohave ground squirrel presence be confirmed during the survey, the Project Proponent shall obtain an ITP for Mohave ground squirrel prior to the start of Project activities. CDFW shall be notified if Mohave ground squirrel presence is confirmed during the pre-construction survey.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>
<p><u>Mohave Ground Squirrel Observations.</u> If a Mohave ground squirrel is observed during Project Activities, and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.</p>	<p>Entire Project</p>	<p>Project Proponent</p>
<p><u>Pre-Construction Desert Tortoise Surveys.</u> No more than 30 calendar days prior to start of Project activities a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the most recent United States Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project Area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project Activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the Project Proponent shall obtain an ITP for desert tortoise prior to the start of Project activities. Should desert tortoise presence be confirmed during the survey the qualified biologist shall notify CDFW.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>

<p><u>Desert Tortoise Observations.</u> If a desert tortoise is observed during Project Activities and the Project Proponent does not have an ITP, all work shall immediately stop and the observation shall be immediately reported to CDFW.</p>	<p>Entire Project</p>	<p>Project Proponent</p>
<p><u>On-site Education.</u> A qualified biologist shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. Education should include but not be limited to desert tortoise, burrowing owl, desert kit fox, American badger, nesting birds, and special-status plants. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>
<p><u>Minimize Impacts on Other Species.</u> A qualified biologist shall be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with authorization by CDFW shall move CESA-listed species.</p>	<p>Before commencing ground- or vegetation-disturbing activities/Entire Project</p>	<p>Project Proponent</p>