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Petition for Post-Certification Amendment

Remodel the Site Entrance Gate and Install a Security Guard Shack

For the
Huntington Beach Energy Project
Huntington Beach, California
(12-AFC-02C)

Submitted to the:
California Energy Commission

Submitted by:
AES Huntington Beach Energy, LLC

With Technical Assistance by:

Jacobs Engineering Group Inc.

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Petition for Post-Certification Amendment

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Executive Summary

AES Huntington Beach Energy, LLC (AES or the Project Owner) is submitting this petition to the California Energy Commission (CEC) for post-certification license modification for the Huntington Beach Energy Project (HBEP) (12-AFC-02C). The HBEP consists of a combined cycle gas turbine (CCGT) power block and a simple cycle gas turbine (SCGT) power block. The CCGT power block includes unfired heat recovery steam generators (HRSGs), a condensing steam turbine (STG), an air-cooled condenser, and ancillary facilities. To facilitate startup of the CCGT, the project also includes an auxiliary boiler. The HBEP's CCGT power block is located entirely within the existing Huntington Beach Generating Station (HBGS), an operational non-CEC jurisdictional power plant owned by AES Southland, LLC (AES Southland).

This petition for post-certification license amendment (Petition to Amend or PTA) proposes to remodel the site entrance gate and install a new security guard shack for the HBGS. The PTA includes the following actions:

- Install a new security guard building.
- Replace the existing entrance gate and fencing.
- Update the security system hardware with North American Electric Reliability Corporation (NERC)-compliant equipment.

No other changes to the HBGS site or the HBEP equipment or operations are proposed.

To analyze potential environmental effects, an environmental impacts assessment is presented in Section 3. The assessment concludes that there will be no significant environmental impacts associated with the implementation of the actions specified in this PTA and that the project, as modified, will continue to comply with all applicable laws, ordinances, regulations, and standards (LORS).

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Acronyms and Abbreviations

µg/m^3	microgram(s) per cubic meter
AERMAP	American Meteorological Society/Environmental Protection Agency Regulatory Model Terrain Pre-processor
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AES	AES Huntington Beach Energy, LLC
AES Southland	AES Southland, LLC
AFC	Application for Certification
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCGT	combined cycle gas turbine
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
COC	Conditions of Certification
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
g	gram(s)
GE	General Electric
GHG	greenhouse gas
H_2S	hydrogen sulfide
HBEP	Huntington Beach Energy Project
HBGS	Huntington Beach Generating Station
HRA	health risk assessment
HRSG	heat recovery steam generator
K	degrees Kelvin
km	kilometer(s)
lb	pound(s)

LORS	laws, ordinances, regulations, and standards
m	meter(s)
m/s	meter(s) per second
MEIR	maximally exposed individual resident
MEIW	maximally exposed individual worker
MESR	maximally exposed sensitive receptor
MT	metric ton(s)
MW	megawatt
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NERC	North American Electric Reliability Corporation
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
OEHHA	Office of Environmental Health Hazard Assessment
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less
PMI	point of maximum impact
PTA	Petition to Amend
REL	Reference Exposure Level
SCAQMD	South Coast Air Quality Management District
SCGT	simple cycle gas turbine
SO_2	sulfur dioxide
SO_X	sulfur oxides
STG	condensing steam turbine
VOC	volatile organic compounds

1. Introduction

1.1 Background

The CEC approved the HBEP Application for Certification (AFC) on October 29, 2014 ("Final Decision") and the amendment request to the original license on April 12, 2017 ("Final Amendment Decision").

The HBEP site is on the existing HBGS property owned and operated by AES Southland, located at 21730 Newland Street in the City of Huntington Beach, California, and occupies approximately 30 acres of the 106-acre HBGS site. With the Final Amendment Decision, the CEC analyzed the project's impacts for two General Electric (GE) Model 7FA.05 combustion turbines in a combined cycle configuration, two GE Model LMS100-PB combustion turbines in a simple cycle configuration, and an auxiliary boiler. The HBEP's CCGTs began commercial operation in February 2020, along with the auxiliary boiler. Construction of the SCGTs has yet to commence and is contingent on securing a power purchase agreement.

Since issuance of the Final Amendment Decision, the following post-certification changes have also been approved by the CEC:

- Modification of several commissioning parameters for the auxiliary boiler, approved in July 2019.
- Replacement of an approved architectural screening structure (spherical ball wall) with a mural-based design treatment for screening and enhancing views of the project site, approved in April 2021.
- Increase of CCGT nitrogen oxides (NO_X) non-cold startup emissions limit from 17 pounds per event to 32 pounds per event for consistency with the South Coast Air Quality Management District's (SCAQMD) revised Title V Facility Permit, approved in August 2021.

In addition, the CEC is currently reviewing a PTA to meet projected electricity demand within the Los Angeles Basin by increasing the annual CCGT operating hours from 6,640 hours per unit per year (including starts and stops) to 7,640 hours per unit year per (including starts and stops). The PTA also proposes to modify air emission limits commensurate with the modification of annual CCGT operating hours.

1.2 Overview of Proposed Amendments

This PTA addresses the potential environmental impacts associated with the HBGS site entrance remodel. The remodeling will include the following:

- Install a new security guard building.
- Replace the existing entrance gate and fencing.
- Update the security system hardware with NERC-compliant equipment.

No other changes to the HBGS site or the HBEP equipment or operations are proposed.

A detailed description of the proposed modification is included in Section 2 and analyzed in Section 3.

This PTA contains all of the information that is required pursuant to the CEC's Siting Regulations (Title 20, California Code of Regulations [CCR], Section 1769, Post Certification Petition for Changes in Project Design, Operation or Performance and Amendments to the Commission Decision). The information necessary to fulfill the requirements of Section 1769 is contained in Sections 1 through 7, as summarized in Table 1.2-1.

Table 1.2-1. Informational Requirements for Post-Certification Modifications

Section 1769(a)(1) Requirements	Sections of PTA Fulfilling Requirements
(A) A complete description of the proposed change, including new language for any conditions of certification that will be affected;	Sections 1, 2, and 3
(B) A discussion of the necessity for the proposed change and an explanation of why the change should be permitted;	Sections 1.1, 1.2, 1.3, and 3
(C) A description of any new information or change in circumstances that necessitated the change;	Sections 1.1, 1.2, 1.3, and 3
(D) An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects;	Sections 1.4 and 3
(E) An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards;	Sections 1.5 and 3
(F) A discussion of how the proposed change would affect the public;	Sections 1, 3, and 4
(G) A list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site;	Section 5
(H) A discussion of the potential effect of the proposed change on nearby property owners, residents, and the public; and	Sections 3, 4, and 6
(I) A discussion of any exemptions from the California Environmental Quality Act, commencing with Section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.	Section 7

1.3 Necessity of Proposed Changes, an Explanation of Why it Should Be Permitted, and a Description of New Information or Change in Circumstances

The CEC Siting Regulations require a discussion of the necessity for the proposed revisions to the HBEP Certification, an explanation of why the change should be permitted, and a description of any new information or change in circumstances that necessitated the change (Title 20, CCR, Sections 1769(a)(1)(B) and (C)). The change to the HBGS entrance gate is to provide updated facilities and security to conform to NERC requirements and worker safety objectives.

1.4 Summary of Potential Environmental Effects and Proposed Mitigation Measures

The CEC Siting Regulations require an analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effect (Title 20, CCR, Section 1769(a)(1)(D)). Section 3 of this PTA includes a discussion of the potential environmental impacts associated with the modification as well as a discussion of the consistency of the modification with applicable LORS. Section 3 concludes that there will be no significant, unmitigated environmental impacts associated with implementing the actions specified in this PTA and that the project, as modified, will comply with all applicable LORS. As such, no new or additional mitigation measures are proposed as part of this PTA.

1.5 Consistency of Changes with Applicable LORS

The CEC Siting Regulations require an analysis of how the proposed change would affect the project's compliance with applicable LORS (Title 20, CCR, Section 1769(a)(1)(E)). The proposed project modification is consistent with applicable LORS, as discussed in Section 3. The proposed project change will have no effect on the HBEP but will enhance the HBGS site security by providing modern, efficient entrance gate and guard facilities.

2. Description of Proposed Amendments

This section includes a description of the proposed project modification, consistent with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(A)).

2.1 Project Modifications

The HBGS site entrance and current security guard room is in a building that is more than 60 years old that does not provide the necessary visibility the security officer needs to perform their duties. Accordingly, AES Southland plans to remodel the entrance and install a new security guard facility to update and improve the NERC-compliant security systems, improve worker security and safety, improve working conditions, and replace the aging security fencing and gate to enhance the local visual impacts. Each of these improvements are described in more detail below.

One of the primary reasons for the remodel is to update and improve the NERC-compliant security systems and to provide adequate facilities for the performance of the duties by the security officer. In support of this, AES Southland's remodel design includes the replacement of surveillance cameras, security card readers, enhanced illumination, vehicle license plate reader, and elimination of public access to the guard facility prior to the completion of the security screening process. These improvements will have the added benefit of improving worker security and safety.

To improve working conditions for the security guards, the new guard facility also includes an updated heating/air conditioning system, internet access, higher visibility to approaching people or vehicles, restroom and kitchen facilities, and a locker room. Attachment 2.1 includes the civil design drawings for the proposed site entrance remodel.

The entrance remodel also replaces the existing security fencing and gate with a fully automated gate that complies with NERC security requirements and resurfacing of the street asphalt. In addition, the remodel will accommodate increased traffic flows during maintenance events when maintenance contractors and equipment deliveries can result in congestion at the HBGS site entrance off Newland Street.

The remodel is expected to take approximately 4 months (18 weeks demolition, construction, and site mobilization/demobilization) to complete. The construction schedule reflects the need to maintain an operational entrance to support the operation of HBGS and HBEP. Minimal ground disturbance, approximately 3,500 square feet, will be required for the remodel and will be limited to hardscape removal, fence/gate support foundations, and some minor trenching for underground utilities. Existing asphaltic cement will be grinded approximately 4 inches, the compacted road base will be removed for reuse, and the underlying soils recompacted. The deepest expected excavations will be approximately 3 feet below grade for the water/sewer lines, fence supports, and removable bollards.

Once the demolition phase is completed, utility lines will be run, foundations poured, and asphaltic cement will be installed. The work will be performed by a local contractor, requiring between 6 and 8 workers per week over the construction period.

2.2 CEC Jurisdiction

During licensing of the HBEP, AES Southland maintained that the HBGS was an operating power plant and that the new HBEP units, subject to CEC jurisdiction, replaced operational HBGS units in a phased approach to allow the continued operation of the HBGS units. The CEC's Final Amendment Decision (TN #217788) states "Construction is proposed to commence in two phases with the first phase consisting of the 644 [megawatt] MW electrical generating facility described above. After the first phase combined-cycle power block is operational, the second phase construction adds two GE simple-cycle gas-turbine LMS-100 PBs (SCGT) with a nominal capacity of 200 MWs, and proposed stack height of

80 feet for the LMS100 units. This second phase does not yet have a power purchase agreement."[1] The CEC envisioned its jurisdiction to follow the phased construction. This is shown in the Final Amendment Decision, Project Description - Figure 2, General Layout of the Amended Project, which is included as Attachment 2.2. This figure shows that the CEC's jurisdiction is limited to the area encompassing the second phase of the project, the construction and operation of the CCGT power block, as denoted by the figure's Phase 2 solid green boundary line. The Phase 2 area does not include the remainder of the HBGS site or the facility entrance.

As such, it is clear that the CEC intended to exert jurisdiction over the HBEP site only and not the entire HBGS site. Therefore, AES Southland believes that the currently planned remodel of the HBGS site entrance is outside of the CEC's licensed jurisdiction and that the City of Huntington Beach instead retains jurisdiction over the review/permitting of the HBGS site entrance remodel project. AES requests the CEC resolve this jurisdictional question prior to acting on this PTA. If the CEC determines that the proposed project is not subject to the CEC's jurisdiction, then AES will proceed with permitting the entrance remodel with the City of Huntington Beach.

2.3 Applicable Conditions of Certification

If the CEC determines that the proposed project is subject to the CEC's jurisdiction, only a limited number of Conditions of Certification (COCs) from the CEC's Final Decision and subsequent amendments are expected to be applicable during construction, based on the small scope of work associated with the proposed project. These COCs are presented in Attachment 2.3 and will be implemented as required.

[1] https://efiling.energy.ca.gov/GetDocument.aspx?tn=217788&DocumentContentId=5901, page 2-5.

3. Environmental Analysis of Proposed Amendments

The following subsections present a discussion of the potential impacts that the proposed change may have on the environmental analysis as presented in applicable sections of the Final Decision and subsequent amendments. Each discussion includes an environmental analysis, an assessment of compliance with applicable LORS, proposed mitigation measures, and, if applicable, proposed changes to the COCs that are necessary as a result of the project modification.

3.1 Air Quality and Greenhouse Gases

3.1.1 Environmental Setting

The project is located in Orange County, which is within the SCAQMD's jurisdiction. The SCAQMD is the U.S. Environmental Protection Agency's (EPA) delegated authority to implement state and federal air quality regulations. The SCAQMD also monitors and reports the status of the area's air quality attainment of the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). Table 3.1-1 presents the attainment status for Orange County.

Table 3.1-1. State and Federal Air Quality Designations for Orange County, California

Pollutant	State Designation	Federal Designation
Ozone	1-hour: Nonattainment 8-hour: Nonattainment	1-hour: Nonattainment (Extreme) 8-hour: Nonattainment (Extreme)
CO	1-hour: Attainment 8-hour: Attainment	1-hour: Attainment (Serious Maintenance) 8-hour: Attainment (Serious Maintenance)
NO_2	1-hour: Attainment Annual: Attainment	1-hour: Attainment (Maintenance) Annual: Attainment (Maintenance)
SO_2	1-hour: Attainment 24-hour: Attainment	1-hour: Attainment N/A
PM_{10}	24-hour: Nonattainment Annual: Nonattainment	24-hour: Attainment (Serious Maintenance) N/A
$PM_{2.5}$	N/A Annual: Nonattainment	24-hour: Nonattainment (Serious) Annual: Nonattainment (Serious)
Lead	Attainment	Attainment
H_2S, Sulfates, Visibility, Vinyl Chloride	Attainment/Unclassified	N/A

Sources:

California Air Resources Board (CARB). 2022. "Maps of State and Federal Area Designations." Available online at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed July 12, 2022.

U.S. Environmental Protection Agency (EPA). 2022. "Nonattainment Areas for Criteria Pollutants (Green Book)." Available online at: https://www.epa.gov/green-book. Accessed July 12, 2022.

Notes:

CO = carbon monoxide

H_2S = hydrogen sulfide

N/A = Not applicable (i.e., no standard)

NO_2 = nitrogen dioxide

$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less

PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less

SO_2 = sulfur dioxide

3.1.2 Environmental Consequences

The proposed modification to the HBGS site entrance will result in air quality and greenhouse gas (GHG) impacts due to the minimal construction activities. Emissions from construction were estimated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. Model defaults were used unless otherwise noted below:

- Construction duration was assumed to be 18 weeks total, beginning October 1, 2022 and ending February 3, 2023.
- Project area of 3,500 square feet was used based on Civil Drawings. No building-specific dimensions were included at this time, based on the expectation that the new guard facilities will be prefabricated.
- Project characteristics are based on the site's location in Huntington Beach, Orange County, California.
- Assumed 8 workers per day with a default one-way commute distance of 14.7 miles.
- Assumed 2 delivery truck trips per day with a default one-way distance of 6.90 miles.
- Assumed the following with regards to construction equipment, based on the small size of the project:
  - Only one Tractor/Loader/Backhoe and one Concrete/Industrial Saw would be needed for demolition activities
  - Only one Tractor/Loader/Backhoe would be needed for site preparation activities
  - Only one Tractor/Loader/Backhoe would be needed for grading activities
  - Only one Tractor/Loader/Backhoe, one Forklift, and one Crane would be needed for building construction activities and that the Crane would be used in only limited capacity
  - Only two Cement and Mortar Mixers, one Paver, one Roller, and one Tractor/Loader/Backhoe would be needed for paving activities

The construction emissions are presented in Table 3.1-2, along with a comparison to the SCAQMD's California Environmental Quality Act (CEQA) significance thresholds; the CalEEMod report of results is included in Attachment 3.1. As shown in Table 3.1-2, project construction is not expected to result in a significant air quality or GHG impact as the construction emissions are estimated to be below the SCAQMD's CEQA significance thresholds.

Table 3.1-2. Summary of Construction Emissions

Pollutant	Significance Threshold	Project Construction Emissions[a]	Exceeds Threshold (Y/N)?
NO_X	100 lb/day	5.04 lb/day	N
VOC	75 lb/day	6.71 lb/day	N
PM_{10}	150 lb/day	5.49 lb/day	N
$PM_{2.5}$	55 lb/day	2.67 lb/day	N
SO_X	150 lb/day	0.01 lb/day	N
CO	550 lb/day	6.83 lb/day	N
CO_2e	10,000 MT/year	26.56 MT/year	N

Source: South Coast Air Quality Management District (SCAQMD). 2019. *SCAQMD Air Quality Significance Thresholds*. April. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed July 12, 2022.

Notes:

CO_2e = carbon dioxide equivalent

lb/day = pound(s) per day

MT/year = metric ton(s) per year

NO_X = nitrogen oxides

SO_X = sulfur oxides

VOC = volatile organic compounds

[a] Project construction emissions presented are the maximum daily construction emissions for the entire project duration except for CO_2e emissions. CO_2e emissions presented are the total construction emissions; because project construction is expected to last only 18 weeks, annual emissions were assumed equal to the total project emissions. CalEEMod defaults which assumed no overlapping activity phases (e.g. demolition, site preparation, building construction, etc.) were used.

The proposed modification will not alter the operation of HBEP's air emission sources. Therefore, no operational air quality or GHG impacts are expected.

3.1.3 Mitigation Measures

The proposed modification will not create a significant construction air quality or GHG impact and will not require additional mitigation measures. Furthermore, based on the small scope of work associated with the proposed modification, only AQ-SC1 to AQ-SC5 of the existing construction COCs should be applicable to this project, as identified in Attachment 2.3.

3.1.4 Consistency with LORS

The proposed modification will comply with applicable LORS, with implementation of only a limited list of existing construction COCs.

3.1.5 Conditions of Certification

The proposed modification does not require changes to the COCs for air quality.

3.2 Biological Resources

3.2.1 Environmental Setting

This PTA does not require changes to the biological resources setting described in the Final Decision and subsequent amendments.

3.2.2 Environmental Consequence

The proposed modification will require the removal of several palm trees and landscaping shrubs/turf at the HBGS site entrance. The landscaping will be surveyed by a biologist prior to removal to ensure no nests are present. No other changes to habitat or physical disturbance of special-status species, natural or cropland vegetation; soils; wetlands; vernal pools or vernal swales; interfere with wildlife or aquatic species movement; or conflict with any local policies/ordinances or any approved/adopted conservation plans is expected. Therefore, construction biological impacts are expected to be less than significant.

The proposed modification will not alter the operation of HBEP's air emission sources. Therefore, no operational biological resources impacts, specifically nitrogen deposition, are expected.

3.2.3 Mitigation Measures

The proposed modification will not create a significant biological resources impact and will not require additional mitigation measures.

3.2.4 Consistency with LORS

The modified project conforms to applicable LORS related to biological resources.

3.2.5 Conditions of Certification

The proposed modification does not require changes to the COCs for biological resources.

3.3 Cultural Resources

3.3.1 Environmental Setting

This PTA does not require changes to the cultural resources setting described in the Final Decision and subsequent amendments.

3.3.2 Environmental Consequences

The proposed modification is not expected to impact native soils. The deepest excavations (fence and bollard supports) will be approximately 3 feet below grade. Additionally, the proposed changes do not materially alter the physical appearance of the project, which could potentially impact nearby historic properties. Therefore, no impacts to cultural resources are expected.

3.3.3 Mitigation Measures

No cultural resources impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.3.4 Consistency with LORS

The modified project conforms to applicable LORS related to cultural resources.

3.3.5 Conditions of Certification

The proposed modification does not require changes to the COCs for cultural resources.

3.4 Energy and Energy Resources

3.4.1 Environmental Setting

This PTA does not require changes to the energy and energy resources setting described in the Final Decision and subsequent amendments.

3.4.2 Environmental Consequences

The proposed modification will not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources. Construction will consume energy resources. However, the remodel of the guard facilities will incorporate building design standards that will be significantly more energy efficient than the existing 50+ year old systems.

No operational changes to HBEP are proposed, so no change in the energy and energy resources are affected. Therefore, no impacts to energy or energy resources are expected.

3.4.3 Mitigation Measures

No energy or energy resources impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.4.4 Consistency with LORS

The modified project conforms to applicable LORS related to energy and energy resources.

3.4.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for energy or energy resources and, as impacts are considered less than significant, none are required.

3.5 Geological and Paleontological Resources

3.5.1 Environmental Setting

This PTA does not require changes to the geological and paleontological resources setting described in the Final Decision and subsequent amendments.

3.5.2 Environmental Consequences

The proposed modification will not result in significant ground disturbance, excavations, earth moving, or deep foundation installation and no additional geologic resources or geologic hazards have been identified in the project area. Therefore, no impacts to geological and paleontological resources are expected.

3.5.3 Mitigation Measures

No geological and paleontological resources impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.5.4 Consistency with LORS

The modified project conforms to applicable LORS related to geological and paleontological resources.

3.5.5 Conditions of Certification

The proposed modification does not require changes to the COCs for geological and paleontological resources.

3.6 Hazardous Materials Management

3.6.1 Environmental Setting

This PTA does not require changes to the hazardous materials management setting described in the Final Decision and subsequent amendments.

3.6.2 Environmental Consequences

The proposed modification will neither result in the use of a new construction or operational hazardous material onsite nor increase the approved amount of hazardous materials used. Therefore, no significant impacts to hazardous materials management are expected.

3.6.3 Mitigation Measures

No hazardous materials management impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.6.4 Consistency with LORS

The modified project conforms to applicable LORS related to hazardous materials management.

3.6.5 Conditions of Certification

The proposed modification does not require changes to the COCs for hazardous materials management.

3.7 Land Use

3.7.1 Environmental Setting

This PTA does not require changes to the land use setting described in the Final Decision and subsequent amendments.

3.7.2 Environmental Consequences

The proposed change does not physically divide an established community. The project change is consistent with existing land uses in the project vicinity, the policy for consistent land use designation/zoning district, and other applicable policies. Therefore, no impacts to land use are expected.

3.7.3 Mitigation Measures

No land use impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.7.4 Consistency with LORS

The modified project conforms to applicable LORS related to land use.

3.7.5 Conditions of Certification

The proposed modification does not require changes to the COCs for land use.

3.8 Noise and Vibration

3.8.1 Environmental Setting

This PTA does not require changes to the noise and vibration setting described in the Final Decision and subsequent amendments.

3.8.2 Environmental Consequences

The proposed modification will not increase noise or vibration-producing activities at the site beyond those analyzed during the licensing of the HBEP. Therefore, the proposed modification will not alter the noise or vibration impacts of the project.

3.8.3 Mitigation Measures

The proposed modification will not create a significant noise and vibration impact and will not require additional mitigation measures.

3.8.4 Consistency with LORS

The modified project conforms to applicable LORS related to noise and vibration.

3.8.5 Conditions of Certification

The proposed modification does not require changes to the COCs for noise and vibration.

3.9 Public Health

3.9.1 Environmental Setting

This PTA does not require changes to the public health setting described in the Final Decision and subsequent amendments.

3.9.2 Environmental Consequences

The proposed modification to the HBGS site entrance will result in public health impacts due to the release of diesel particulate matter (DPM) emissions from diesel-fueled construction equipment and vehicles. A screening health risk assessment (HRA) was conducted to evaluate the potential health risks associated with DPM exposure during construction, conservatively assuming DPM emissions were equal to the exhaust emissions of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), estimated using CalEEMod, as described in Section 3.1.2, with the following caveats:

- DPM was assumed to be best represented by PM_{10} emitted as a result of fuel combustion. Therefore, fugitive dust emissions were excluded as they are not expected to include DPM.
- Offsite contributions of PM_{10} resulting from worker commute trips and vendor delivery trips were conservatively included.

The emission rates used for modeling were spatially distributed within the construction area and are presented in Table 3.9-1. Detailed calculations are presented in Attachment 3.9, Table 1.

Table 3.9-1. DPM Emission Rates for Project Construction Used in HRA Modeling

	DPM Exhaust Emissions		
Emissions Category	Total (lb/project)	Annualized (lb/year)[a]	Modeled Rate (g/s)
Total Construction Emissions	14.8	14.8	2.12E-04
Construction Emissions per Modeled Source[b]	0.70	0.70	1.01E-05

Notes:

g/s = gram(s) per second

lb/project = pound(s) per project

lb/year = pound(s) per year

[a] Because project construction is expected to last only 18 weeks, annualized emissions were assumed equal to the total project emissions.

[b] A total of 21 sources were modeled.

The atmospheric dispersion of emitted DPM was modeled using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD; Version 22112). The modeled output (maximum ground-level concentrations), along with equations from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*,[2] were used to estimate the cancer and chronic (non-cancer) health risks for residential and worker exposure to DPM emissions. Acute (non-cancer) health risks were not estimated, because there is no acute inhalation Reference Exposure Level (REL) for DPM, thus indicating that DPM is not known to result in acute health hazards.[2,3] The model selection and model options, meteorological data, receptor grid spacing, sensitive receptors, source parameters, and health risk estimation, specific to the screening HRA, are described in more detail in the following paragraphs.

Model Selection and Model Options. The air dispersion modeling was conducted based on guidance presented in the *Guideline on Air Quality Models*[4] and the EPA-approved dispersion model, AERMOD (Version 22112). AERMOD is a steady-state model that incorporates hourly meteorological data inputs and local surface characteristics and can accommodate the physical characteristics of a variety of source types. The technical options selected for the AERMOD model include the following:

- Regulatory default control options
- Urban dispersion mode using a population of 3,010,232, as recommended by the SCAQMD for projects in Orange County[5]
- Receptor elevations and controlling hill heights obtained from American Meteorological Society/Environmental Protection Agency Regulatory Model Terrain Pre-processor (AERMAP; Version 18081) output

Meteorological Data. AERMOD-ready meteorological data were acquired from the SCAQMD[6] for the John Wayne International Airport Station for years 2012 through 2016. The John Wayne International Airport

[2] Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed July 12, 2022.

[3] Office of Environmental Health Hazard Assessment and California Air Resources Board (OEHHA & CARB). 2020. *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*. October. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable.pdf. Accessed July 12, 2022.

[4] U.S. Environmental Protection Agency (EPA). 2017. *Guideline on Air Quality Models*. Title 40, Code of Federal Regulations, Part 51, Appendix W. November.

[5] South Coast Air Quality Management District (SCAQMD). 2022. "South Coast AQMD Modeling Guidance for AERMOD." Available online at: http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance#Urban. Accessed July 12, 2022.

[6] Available online at: https://www.aqmd.gov/home/air-quality/meteorological-data/aermod-table-1.

Station data were used for consistency with analyses performed in support of the CEC's Final Decision and subsequent amendments and is considered representative of the project site.

Receptor Grid Spacing. The ambient air boundary was defined by the property boundary surrounding the construction area. The selection of receptors in AERMOD were as follows:

- 30-meter (m) spacing along the property boundary
- 50-m spacing from the property boundary to 500 m from the grid origin
- 100-m spacing from beyond 500 m to 3 kilometers (km) from the grid origin
- 500-m spacing from beyond 3 km to 10 km from the grid origin

AERMAP (Version 18081) was used to process terrain elevation data to obtain the elevation for all receptors using National Elevation Dataset (1/3 arc-second, or approximately 10 m, resolution) files prepared by the U.S. Geological Survey. AERMAP first determined the base elevation at each receptor. Then AERMAP created hill height scale by searching for the terrain height and location that has the greatest influence on dispersion for each individual source and receptor. Both the base elevation and hill height scale data were produced for each receptor by AERMAP as a file or files that were directly accessed by AERMOD.

All receptor locations were expressed in the Universal Transverse Mercator North American Datum 1983, Zone 11 coordinate system. The modeled receptor grid is shown in Attachment 3.9, Figure 1.

Sensitive Receptors. Sensitive receptors include infants and children, the elderly, the chronically ill, and any other member of the general population who is more susceptible to the effects of exposure than the population at large. Therefore, schools (public and private), daycare facilities, convalescent homes, and hospitals are of particular concern. The sensitive receptor locations evaluated in this screening HRA are consistent with those of the analyses performed in support of the CEC's Final Decision and subsequent amendments and include the following within a 6-mile radius of the HBEP site:

- Residential dwellings, including apartments, houses, and condominiums
- Schools, colleges, and universities
- Preschools and daycares
- Hospitals
- Senior-care facilities

The nearest sensitive receptor is a residential area located 220 feet (67 m) west-northwest of the HBEP facility boundary along Newland Street. The nearest school is Edison High School, located approximately 2,100 feet (640 m) to the northeast of the HBEP facility boundary. The nearest businesses are located along Edison Drive, just north of (across the street from) the HBEP facility boundary.

Sensitive receptors are included in the modeled receptor grid shown in Attachment 3.9, Figure 1.

Source Parameters. The exhaust emissions resulting from construction equipment and vehicles were modeled as a set of point sources spaced approximately 5 m apart over the onsite construction area with a horizontal stack release. The horizontal release type is an AERMOD option which negates mechanical plume rise. This conservative approach was used because it is unknown whether all construction equipment will have vertically oriented exhaust stacks. Stack release parameters consisted of a stack release temperature of 533 degrees Kelvin (K; 500 degrees Fahrenheit), a stack diameter of 0.127 m (5 inches), an exit velocity of 18 meters per second (m/s), and a release height of 4.6 m (15 feet) based on data for typical construction equipment. A detailed summary of the modeling inputs is presented in Attachment 3.9, Table 2; the modeled facility layout is presented in Attachment 3.9, Figure 2.

Health Risk Estimates. The screening HRA estimated annual cancer risks, based on the expected construction duration of only 18 weeks, at the point of maximum impact (PMI), maximally exposed individual resident (MEIR), maximally exposed individual worker (MEIW), and maximally exposed sensitive receptor (MESR). Exposure was assumed to start during the third trimester for residents and sensitive receptors and at age 16 for workers. Estimated annual cancer risks assumed the worst-case 1-year rolling

average risk of the 30-year duration. The excess lifetime cancer risks were estimated using the following, as presented in Attachment 3.9, Tables 3, 5, and 6:

- Equations 3.4.1.1 and 8.2.4A from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[2] for residential exposure
- Equations 5.4.1.2A, 5.4.1.2B, and 8.2.4B from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[2] for worker exposure
- Maximum annual ground-level concentrations used to estimate risk were determined through dispersion modeling with AERMOD
- Construction emission estimates used for AERMOD modeling are presented in Table 3.9-1

Chronic risks were also estimated for the PMI, MEIR, MEIW, and MESR, based on the emission rates and ground-level concentrations described above. To calculate chronic risk, as characterized by a hazard index, the maximum annual ground-level DPM concentration determined through dispersion modeling with AERMOD was divided by the DPM REL of 5 micrograms per cubic meter ($\mu g/m^3$).[4] These calculations are presented in Attachment 3.9, Table 4.

The screening HRA results are presented in Table 3.9-2 and demonstrate that project construction is not expected to result in a significant public health impact as the cancer and chronic risks from DPM exposure are estimated to be below the SCAQMD's CEQA significance thresholds of 10 in 1 million and 1.0, respectively.[7,8]

Table 3.9-2. Screening HRA Results for Project Construction

Risk Component	Cancer Risk	Chronic Hazard Index	Exceeds Thresholds (Y/N)?
PMI	3.11 in a million	0.0041	N
MEIR	0.95 in a million	0.0013	N
MEIW	0.05 in a million	0.0041	N
MESR	0.95 in a million	0.0013	N

The proposed modification will not alter the operation of HBEP's air emission sources. Therefore, no operational public health impacts are expected.

3.9.3 Mitigation Measures

The proposed modification will result in less-than-significant impacts on public health. Therefore, no additional mitigation measures are required.

3.9.4 Consistency with LORS

The modified project conforms to applicable LORS related to public health.

3.9.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for public health and, as impacts are considered less than significant, none are required.

[7] Cancer burden was not calculated since the 30-year cancer risk did not exceed 1 in 1 million at any residential receptor.

[8] South Coast Air Quality Management District (SCAQMD). 2019. *SCAQMD Air Quality Significance Thresholds*. April. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed July 12, 2022.

3.10 Socioeconomics

3.10.1 Environmental Setting

This PTA does not require changes to the socioeconomic setting described in the Final Decision and subsequent amendments.

3.10.2 Environmental Consequences

The proposed change will not alter the basis of the CEC's determination that HBEP will not have a significant impact on socioeconomics. Therefore, no significant socioeconomic impacts are expected.

3.10.3 Mitigation Measures

No socioeconomics impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.10.4 Consistency with LORS

The modified project conforms to applicable LORS related to socioeconomics.

3.10.5 Conditions of Certification

The proposed modification does not require changes to the COCs for socioeconomics.

3.11 Soil and Water Resources

3.11.1 Environmental Setting

This PTA does not require changes to the soil and water resources setting described in the Final Decision and subsequent amendments.

3.11.2 Environmental Consequences

The proposed modification does not result in significant ground disturbance or deep excavations, occurs entirely within the developed project site, and will not result in an increase in water consumption or discharge. Therefore, no impacts to soil or water resources are expected.

3.11.3 Mitigation Measures

No soil and water resources impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.11.4 Consistency with LORS

The modified project conforms to applicable LORS related to soil and water resources.

3.11.5 Conditions of Certification

The proposed modification does not require changes to the COCs for soil and water resources.

3.12 Traffic and Transportation

3.12.1 Environmental Setting

This PTA does not require changes to the traffic and transportation setting described in the Final Decision and subsequent amendments.

3.12.2 Environmental Consequences

The proposed change will require up to 8 workers per week and several daily truck/delivery trips to the site. This increase in worker/truck deliveries to the site does not result in a material increase in traffic in the project area. Therefore, no significant impacts to traffic or transportation are expected.

3.12.3 Mitigation Measures

The proposed modification will not create a significant traffic and transportation impact and will not require additional mitigation measures.

3.12.4 Consistency with LORS

The modified project conforms to applicable LORS related to traffic and transportation.

3.12.5 Conditions of Certification

The proposed modification does not require changes to the COCs for traffic and transportation.

3.13 Visual Resources

3.13.1 Environmental Setting

This PTA does not require changes to the visual resources setting described in the Final Decision and subsequent amendments.

3.13.2 Environmental Consequences

The proposed change will not materially alter the physical appearance of the project. Therefore, no impacts to visual resources are expected.

3.13.3 Mitigation Measures

No visual resources impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.13.4 Consistency with LORS

The modified project conforms to applicable LORS related to visual resources.

3.13.5 Conditions of Certification

The proposed modification does not require changes to the COCs for visual resources.

3.14 Waste Management

3.14.1 Environmental Setting

This PTA does not require changes to the waste management setting described in the Final Decision and subsequent amendments.

3.14.2 Environmental Consequences

The proposed change will generate some construction wastes, primarily ground asphaltic cement, steel, and other demolition wastes. Construction wastes will be recycled to the extent feasible, and any non-recyclable wastes will be disposed of consistent with the facility's operational waste management plan. Therefore, no impacts to waste management are expected.

3.14.3 Mitigation Measures

No waste management impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.14.4 Consistency with LORS

The modified project conforms to applicable LORS related to waste management.

3.14.5 Conditions of Certification

The proposed modification does not require changes to the COCs for waste management.

3.15 Wildfire

3.15.1 Environmental Setting

The HBGS site is not located in or near a State Responsibility Area or a very high Fire Hazard Severity Zone.

3.15.2 Environmental Consequences

The proposed change will not substantially impair an adopted emergency response/evacuation plan, expose project occupants to pollution concentrations from a wildfire, require installation or maintenance of associated infrastructure that may exacerbate fire risk, or expose people or structures to significant risks due to flooding or landslides.

3.15.3 Mitigation Measures

No wildfire impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.15.4 Consistency with LORS

The modified project conforms to applicable LORS related to wildfire.

3.15.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for wildfire and, as impacts are considered less than significant, none are required.

3.16 Worker Safety and Fire Protection

3.16.1 Environmental Setting

This PTA does not require changes to the worker safety and fire protection setting described in the Final Decision and subsequent amendments.

3.16.2 Environmental Consequences

The proposed change will neither increase workers' exposure to health and safety hazards nor negatively impact the availability and adequacy of fire protection and emergency response services. Therefore, no impacts to worker safety and fire protection are expected.

3.16.3 Mitigation Measures

No worker safety and fire protection impacts are expected from the proposed modification. Therefore, no additional mitigation measures are required.

3.16.4 Consistency with LORS

The modified project conforms to applicable LORS related to worker safety and fire protection.

3.16.5 Conditions of Certification

The proposed modification does not require changes to the COCs for worker safety and fire protection.

4. Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modification proposed in this PTA, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(F)).

With the implementation of the proposed change, the project would have no adverse effect on the public once construction is completed. Therefore, no significant adverse effects on the public will occur because of the project change proposed in this PTA.

5. List of Property Owners

In accordance with the CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(G)), a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site will be provided under separate cover.

6. Potential Effects on Property Owners, the Public, and Parties in the Proceeding

This section addresses potential effects of the project change proposed in this PTA on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(H)).

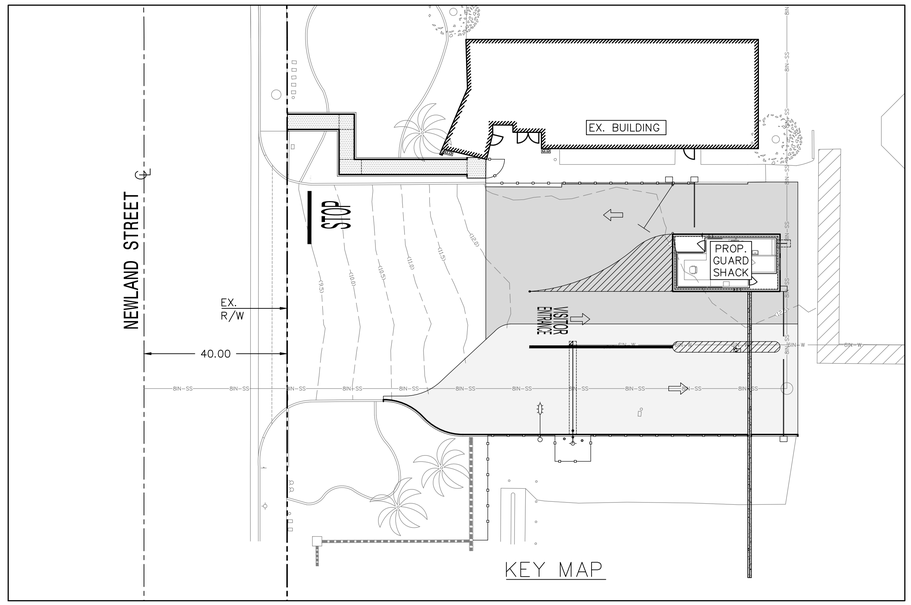
As set forth in Section 3, the proposed modification will not result in any potentially significant impacts and the project will remain in compliance with all applicable LORS. The project, as modified, will not differ significantly in potential effects on adjacent land owners, compared with the project as certified. The project, therefore, would have no adverse effects on nearby property owners, the public, or other parties in the application proceeding.

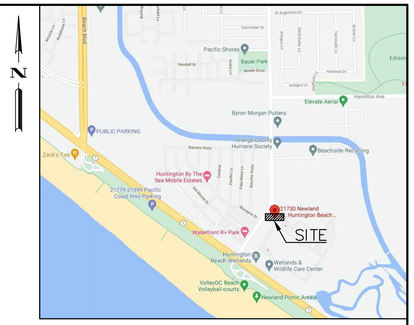
7. Potentially Applicable CEQA Exemptions

This section includes a discussion of any exemptions from CEQA, commencing with Section 21000 of the Public Resources Code, that the Project Owner believes may apply to approval of the proposed change. No CEQA exemption appears to apply for this PTA.

Attachment 2.1
AES Southland Site Entrance and Guard Facility Civil Engineering Design Drawings

CIVIL IMPROVEMENT CONSTRUCTION PLAN
AES SOUTHLAND
21730 NEWLAND STREET
HUNTINGTON BEACH, CA 92646





VICINITY MAP
N.T.S

SHEET INDEX

GRADING GENERAL NOTES

1. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE CITY OF HUNTINGTON BEACH REQUIREMENTS.
2. CITY GRADING INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY GRADING AT THE DEPARTMENT OF PUBLIC WORKS, (714) 536-5431.
3. DUST SHALL BE CONTROLLED BY WATERING.
4. REMOVE ALL VEGETATION AND DEBRIS PRIOR TO ANY GRADING, INSPECTION IS REQUIRED.
5. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A SEPARATE ENCROACHMENT PERMIT.
6. IMPORT SOIL SHALL BE A GRANULAR MATERIAL WITH LOW EXPANSION POTENTIAL AND SHALL BE COMPACTED TO AT LEAST 90%.
7. THE SUBGRADE OF THE DRIVE AND PARKING AREAS SHALL BE SCARIFIED, BROUGHT TO OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 90%. CALL FOR CITY INSPECTION PRIOR TO PLACING OF CLASS 2 AGGREGATE BASE AND THE CASTING OF CONCRETE GUTTERS.
8. A SOIL COMPACTION REPORT SHALL CERTIFY COMPACTION WITHIN BUILDING AND PAVING AREAS.
9. A LICENSED ENGINEER, OR A LICENSED LAND SURVEYOR, SHALL CERTIFY LINE AND GRADE OF FINISH FLOOR FORMS.
10. THE SOILS ENGINEER SHALL CERTIFY THAT ALL GRADING HAS BEEN COMPLETED PER SOILS REPORT PRIOR TO FINAL RELEASE.
11. THE ENGINEER OF RECORD SHALL CERTIFY THAT GRADES FOR ALL HARDSCAPE AND DRAINAGE DEVICES HAVE BEEN CONSTRUCTED PER APPROVED GRADING PLAN PRIOR TO FINAL RELEASE.
12. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH APPROVED SOILS REPORT NOTED HEREIN.
13. STANDARD PLAN 100, SHEETS 1, 2, 3 AND 4 ARE INCORPORATED BY REFERENCE.
14. THE SOILS ENGINEER AND CIVIL ENGINEER SHALL NOT BE SUBSTITUTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE DIRECTOR OF PUBLIC WORKS.

    (SELECT ONE ONLY: TOP IF MINOR WORK IS OFF THE STREET AT THE END OF THE DAY; BOTTOM IF TRAFFIC CONTROL PLAN REQUIRED.)
15. USE THE AMERICAN PUBLIC WORKS ASSOCIATION SOUTHERN CALIFORNIA CHAPTER (APWA) WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL) TENTH EDITION, 2006 WHEN WORKING IN THE STREETS OR ALLEYS. THE CITY INSPECTOR SHALL APPROVE BARRICADING PRIOR TO ANY WORK.

    A TRAFFIC CONTROL PLAN FOR CONSTRUCTION ACTIVITIES ON THE CITY STREETS AND SIDEWALKS MUST BE PREPARED AND SUBMITTED TO THE CITY OF HUNTINGTON BEACH FOR REVIEW AND APPROVAL. THIS TRAFFIC CONTROL PLAN MUST CONFORM TO THE CITY OF HUNTINGTON BEACH CONSTRUCTION TRAFFIC CONTROL PLAN PREPARATION GUIDELINES, JULY 1998 EDITION. THIS TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE CITY OF HUNTINGTON BEACH PRIOR TO THE ISSUANCE OF AN ENCROACHMENT PERMIT.
16. STANDARD PLAN 600 GENERAL NOTES ARE INCORPORATED BY REFERENCE.
17. ANY DAMAGE TO THE STREET LIGHT SYSTEM AND/OR TRAFFIC SIGNAL SYSTEM SHALL BE REPAIRED AND CONDUIT AND CONDUCTORS SHALL BE REPLACED PER CURRENT HUNTINGTON BEACH STANDARD PLANS AND STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND LIGHTING SYSTEMS IN THE CITY OF HUNTINGTON BEACH 2001 EDITION.

EROSION CONTROL GENERAL NOTES

1. EROSION CONTROL IS REQUIRED FOR GRADING OPERATIONS DURING "DRY SEASON" REQUIREMENTS (MAY 1 THROUGH SEPTEMBER 30) AND FOR "WET SEASON" REQUIREMENTS (OCTOBER 1 THROUGH APRIL 30). APPROVED PLANS ARE REQUIRED FOR ALL ROUGH GRADING OPERATIONS.
2. IN CASE OF EMERGENCY CALL:

    MIKE LADEAU
    AT (714) 227-3324
3. THE DESIGN CIVIL ENGINEER WILL SUPERVISE EROSION CONTROL WORK AND ENSURE THAT WORK IS IN ACCORDANCE WITH THE APPROVED PLANS (IF REQUIRED).
4. THERE SHALL BE A "WEATHER TRIGGERED" ACTION PLAN AND THE ABILITY TO DEPLOY STANDBY SEDIMENT CONTROL BMP'S AS NEEDED TO PROTECT ALL EXPOSED PORTIONS OF THE SITE WITHIN 48 HOURS OF A PREDICTED STORM EVENT (A PREDICTED STORM EVENT IS DEFINED AS A NATIONAL WEATHER SERVICE FORECASTED, 50% CHANCE OF RAIN).
5. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE CITY ENGINEER.
6. ALL REMOVABLE PROTECTIVE EROSION CONTROL DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
7. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS, SILT FENCES, AND DESILTING BASINS, ETC.
8. GRADED AREAS AROUND THE TRACT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
9. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
10. THE CITY ENGINEER RESERVES THE RIGHT TO MAKE CHANGES OR MODIFICATIONS TO THIS PLAN AS DEEMED NECESSARY.
11. INFORMATION ON THIS PLAN IS FOR EROSION CONTROL ONLY. ALL OTHER INFORMATION IS SUBJECT TO CHANGE.
12. TEMPORARY EROSION PROTECTION IS REQUIRED FOR MANUFACTURED SLOPES PRIOR TO PERMANENT PLANTING.
13. AREAS SHALL BE MAINTAINED IN SUCH A STATE THAT FIRE ACCESS SHALL BE MAINTAINED AT ALL TIMES (INCLUDING ACCESS TO NEIGHBORING PROPERTIES).
15. NO OBSTRUCTION OR DISTURBANCE OF NATURAL DRAINAGE COURSES OR EXISTING STORM DRAIN INLETS SHALL OCCUR DURING THE "WET SEASON", UNLESS ADEQUATE TEMPORARY/ PERMANENT DRAINAGE FACILITIES HAVE BEEN APPROVED AND INSTALLED TO CARRY SURFACE WATER TO THE NEAREST PRACTICAL STREET, STORM DRAIN OR NATURAL WATER COURSE.
16. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER THAT STORM RUNOFF WILL BE CONTAINED WITHIN THE PROJECT OR CHANNELED INTO THE STORM DRAIN SYSTEM WHICH SERVES THE RUNOFF AREA. STORM RUNOFF FROM ONE AREA SHALL NOT BE ALLOWED TO DIVERT TO ANOTHER RUNOFF AREA.
17. CONFORMANCE WITH THE REQUIREMENTS OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TO THIS SITE AND ADJACENT PROPERTIES. TEMPORARY EROSION CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT.
17. SLOPES CONSTRUCTED PRIOR TO OCTOBER 1 SHALL BE TREATED FOR EROSION CONTROL PRIOR TO OCTOBER 15. SLOPES CONSTRUCTED AFTER OCTOBER 1 SHALL BE TREATED FOR EROSION CONTROL AS THE CONSTRUCTION OF SLOPE PROGRESSES IN INCREMENTS OF 25 FEET OR LESS MEASURED VERTICALLY.
18. FILL AREAS WHILE BEING BROUGHT UP TO GRADE AND DURING PERIODS OF COMPLETION PRIOR TO FINAL GRADE, SHALL BE PROTECTED BY VARIOUS MEASURES TO ELIMINATE EROSION AND THE SILTATION OF DOWNSTREAM FACILITIES AND ADJACENT AREAS. THESE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO: TEMPORARY DOWNDRAINS, EITHER IN THE FORM OF PIPES OR PAVED DITCHES WITH PROTECTED OUTFALL AREAS; GRADED BERMS AROUND AREAS TO ELIMINATE EROSION OF FILL SLOPES BY SURFACE RUNOFF; CONFINED PONDING AREAS TO DESILT RUNOFF; TEMPORARY CHECK DAMS IN TOE OF SLOPE DITCHES TO DESILT RUNOFF; PROTECTION SUCH AS SAND BAGS AROUND INLETS WHICH HAVE NOT BEEN BROUGHT UP TO GRADE; AND EARTH BERMS AND APPROPRIATE GRADING TO DIRECT DRAINAGE AWAY FROM THE EDGE OF THE TOP OF SLOPES SHALL BE CONSTRUCTED AND MAINTAINED ON THOSE FILL AREAS WHERE EARTH-WORK OPERATIONS ARE NOT IN PROGRESS.
19. TOP OF CUT BROW DITCHES, WHERE REQUIRED ON THE PLANS, SHALL BE CONSTRUCTED PRIOR TO EXCEEDING 12 FEET OF CUT MEASURED VERTICALLY.
20. CLEARING AND GRUBBING SHOULD BE LIMITED TO AREAS THAT WILL RECEIVE IMMEDIATE GRADING. EROSION CONTROL MEASURES WILL BE REQUIRED TO PROTECT AREAS THAT HAVE BEEN CLEARED AND GRUBBED PRIOR TO GRADING OPERATION, AND THAT ARE SUBJECT TO RUNOFF DURING THE PERIOD FROM THE BEGINNING OF THE "WET SEASON". THESE MEASURES MAY INCLUDE BUT SHALL NOT BE LIMITED TO: GRADED DITCHES; BRUSH BARRIERS AND SILT FENCES. CARE SHALL BE EXERCISED TO PRESERVE VEGETATION BEYOND THE LIMITS OF GRADING.
21. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. UPON REQUEST, THE REQUIRED PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

REDEVELOPMENT AREA	
PROPOSED ADDITIONAL IMPERVIOUS AREA	3000 SF
REMOVE AND PLACE OF EXISTING IMPERVIOUS AREA	500 SF
TOTAL AREA OF WORK	3500 SF

GRAPHIC SCALE

20 10 0 20 40

SCALE IN FEET
1 inch = 20 ft.

PLUMP ENGINEERING INC.
CONSULTING ENGINEERS
STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, CIVIL SURVEYING, ARCHITECTURAL
914 E. KATELLA AVENUE
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Huntington Beach, CA 92646
(714) 227-9994

Stamp:

REGISTERED PROFESSIONAL ENGINEER
TRYFON N. TRYFONOPOULOS
NO. 65859
EXP.12/31/21
CIVIL
STATE OF CALIFORNIA
10/06/21

Project:
Tenant Improvement for:
AES HUNTINGTON BEACH
- SITE ENTRANCE
21730 NEWLAND STREET
HUNTINGTON BEACH, CA 92646

REVISIONS	
CLIENT SUBMITTAL	08/06/2021
1 P.C.C. #1	09/10/2021

Project Manager: TT
Date: 10/6/2021
Scale:
Project Number: 2103004

Sheet Title: TITLE SHEET

SHEET NUMBER
C04

USER NAME: CHICO.BAKER
PLOT DATE/TIME: 10/6/2021 11:25 AM
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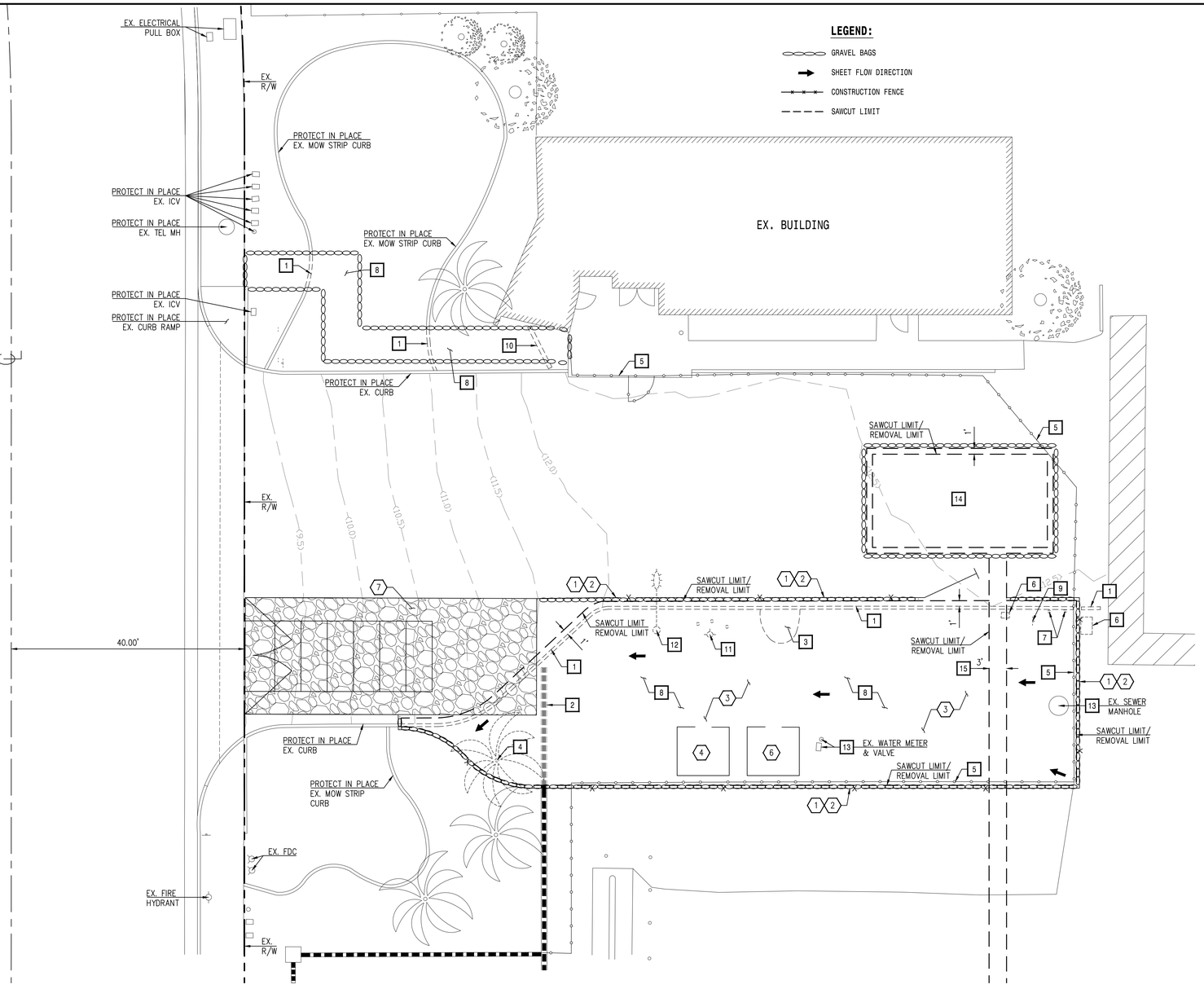


DEMOLITION NOTES

1. REMOVE AND DISPOSE OF EXISTING CURB
2. REMOVE AND DISPOSE OF PORTION OF EXISTING WALL
3. REMOVE AND DISPOSE OF EXISTING CONCRETE
4. REMOVE AND DISPOSE OF EXISTING TREE
5. REMOVE AND DISPOSE OF EXISTING FENCE. CONTRACTOR TO COORDINATE WITH OWNER ON EXISTING FENCE REMOVAL
6. REMOVE AND DISPOSE OF EXISTING ELECTRICAL BOX
7. REMOVE AND DISPOSE OF EXISTING BOLLARD
8. REMOVE AND DISPOSE OF EXISTING LANDSCAPE/DIRT
9. RELOCATE EXISTING STOP SIGN
10. RELOCATE EXISTING ENTRANCE SIGN
11. RELOCATE EXISTING FIRE HYDRANT & BOLLARDS
12. REMOVE AND DISPOSE OFFSITE EXISTING STREET LIGHT
13. PROTECT IN PLACE AND ADJUST TO GRADE ITEM AS NOTED
14. REMOVE AND DISPOSE OFFSITE EXISTING AC PAVEMENT FOR PROPOSED GUARD SHACK. CONTRACTOR TO FIELD VERIFY LOCATION
15. REMOVE AND DISPOSE OFFSITE EXISTING AC PAVEMENT FOR PROPOSED SLIDING GATE CONCRETE PAD. CONTRACTOR TO FIELD VERIFY LOCATION

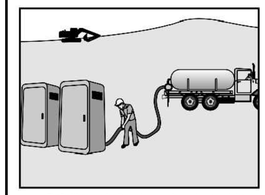
EROSION CONTROL NOTES

1. FURNISH AND INSTALL CONSTRUCTION FENCE
2. FURNISH AND INSTALL GRAVEL BAGS PER DETAIL "EC-1" HEREON
3. STREET SWEEPER OF HARD BROOMING WILL BE REQUIRED
4. CONCRETE WASTE MANAGEMENT WASH OUT TO BE PORTABLE BIN STYLE LOCATED INSIDE OF PLANT
5. NOT USED
6. CONSTRUCT SANITARY/SEPTIC WASTE MANAGEMENT AERA PER DETAIL WM-9 HEERON
7. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE/EXIT (TEMPORARY CONDITION) PER DETAIL EC-2 HEREON AND CASQA BMP TC-1

NOTE

1. CONTRACTOR TO LOCATE EXISTING UTILITIES HORIZONTAL & VERTICAL LOCATION & NOTIFY OWNER/ARCHITECT & ENGINEER.
2. CONTRACTOR TO CAP EXISTING UTILITIES FOR FUTURE CONNECTION TO PROPOSED BUILDING.
3. CONTRACTOR TO REMOVE AS NEEDED EXISTING UTILITIES FROM UNDER PROPOSED BUILDING SLAB LOCATION.
4. NO TEMPORARY FUELING TANKS ALLOWED ON SITE.

Sanitary/Septic Waste Management — WM-9

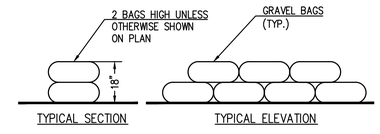


Standard Symbol

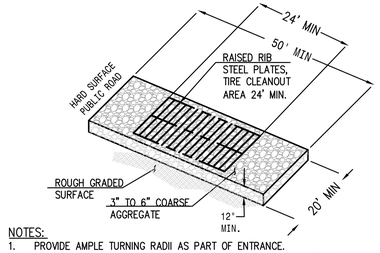
BMP Objectives
- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose Procedures and practices to minimize or eliminate the discharge of construction site sanitary/septic waste materials to the storm drain system or to watercourses.

SANITARY/SEPTIC WASTE MANAGEMENT AREA | WM-9



NTS | GRAVEL BAG EROSION CONTROL | EC-1



NOTES:
1. PROVIDE AMPLE TURNING RADII AS PART OF ENTRANCE.
2. ENTRANCE WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL AGGREGATE.
3. SEE SEC. 3.4 OF "THE CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK".

NTS | STABILIZED CONST. ENTRANCE (TEMPORARY CONDITION) | EC-2

GRAPHIC SCALE

10 5 0 10 20

SCALE IN FEET
1 inch = 10 ft.

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Stamp:

REGISTERED PROFESSIONAL ENGINEER TRYFON N. TRYFONOPOULOS NO. 65859 EXP.12/31/21 CIVIL STATE OF CALIFORNIA
10/06/21

Project: Tenant Improvement for:
AES HUNTINGTON BEACH - SITE ENTRANCE
21730 NEWLAND STREET
HUNTINGTON BEACH, CA 92646

REVISIONS	
CLIENT SUBMITTAL	08/06/2021
1 P.C.C. #1	09/10/2021

Project Manager: TT
Date: 10/6/2021
Scale:
Project Number: 2103004

Sheet Title: DEMOLITION & EROSION CONTROL PLAN

SHEET NUMBER
C02

USER NAME: CHICO BAIER
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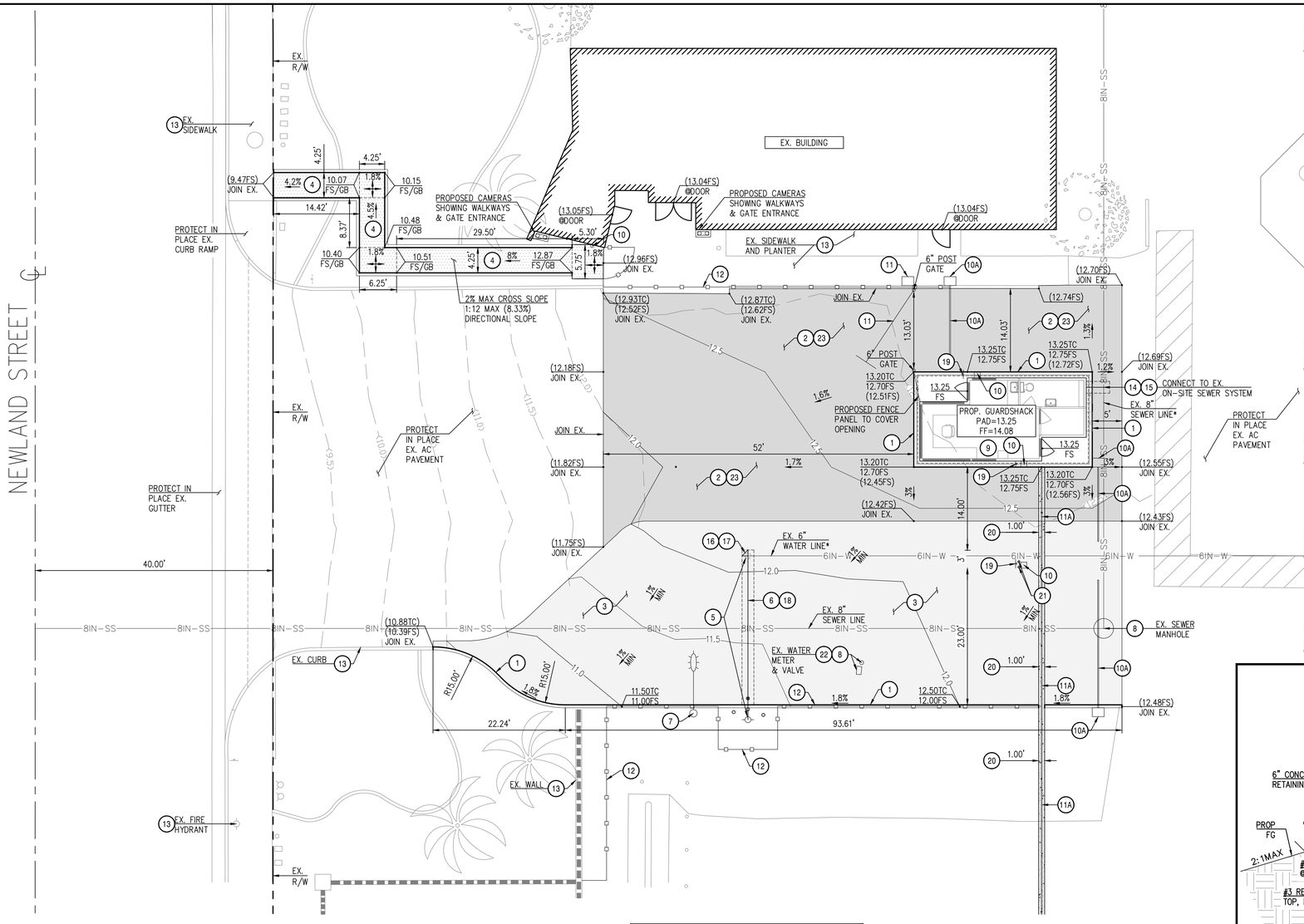

GRADING CONSTRUCTION NOTES

1. CONSTRUCT 6" CURB PER CITY OF HUNTINGTON BEACH STD. DWG. 201, TYPE B-2
2. GRIND & OVERLAY 1-1/2" MIN TO MATCH EXISTING PAVEMENT PER DETAIL "GR-1" ON SHEET 3. GRIND AND REMOVE EXISTING PAVEMENT AS NEEDED. CLEAN ALL CRACKS AND APPLY WEED KILLER. FURNISH & INSTALL PETROMATT OVER ALL ALL CRACKS. PLACE VARIABLE SECTIONS OF NEW ASPHALT OVERLAY PAVEMENT TO MATCH EXISTING ELEVATIONS. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE IN ALL AREAS OF WORK. IF ANY PROPOSED CONSTRUCTION MAY IMPEDE POSITIVE DRAINAGE, CONTRACTOR SHALL INFORM ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT ANY DRAINAGE PROBLEMS CAUSED BY NEW CONSTRUCTION.
3. CONSTRUCT FULL DEPTH OF AC PAVEMENT TO MATCH EXISTING SECTIONS. SEE DETAIL "GR-2" HEREON
4. CONSTRUCT ACCESSIBLE RAMP WITH HANDRAIL PER DETAIL "GR-3" HEREON
5. RELOCATE EXISTING FIRE HYDRANT & BOLLARDS PER CITY OF HUNTINGTON BEACH STD. DWG. 607
6. INSTALL 6" PVC (C900) FIRE WATER LINE (OR EQUAL)
7. FURNISH & INSTALL STREET LIGHT TO MATCH EXISTING STREET LIGHT ON-SITE. CONTRACTOR TO COORDINATE WITH OWNER FOR MODEL AND SPECIFICATION
8. ADJUST TO GRADE ITEM AS NOTED/AS NEEDED
9. PROPOSED GUARD SHACK BUILDING WITH CONCRETE PAD PER STRUCTURAL PLAN SET AND GUARD SHACK MANUFACTURED STANDARDS
10. PROPOSED CARD READER PER MANUFACTURED STANDARDS. CONTRACTOR TO COORDINATE WITH OWNER FOR SPECIFICATION
10A. PROPOSED TRAFFIC ARM PER MANUFACTURED STANDARDS MANUFACTURED BY DOORKING, PART NO. 1601-235
11. PROPOSED MOTORIZED SWING GATE PER MANUFACTURED STANDARDS. CONTRACTOR TO COORDINATE WITH OWNER FOR SPECIFICATION.
11A. PROPOSED MOTORIZED SLIDING GATE PER MANUFACTURED STANDARDS. CONTRACTOR TO COORDINATE WITH OWNER FOR SPECIFICATION.
12. PROPOSED MONTAGE COMMERCIAL INVINCIBLE 3/4 PER RAIL DETAIL HEREON
13. PROTECT IN PLACE ITEM AS NOTED
14. CONSTRUCT 4" SEWER LATERAL PER CITY OF HUNTINGTON BEACH STD. DWG. 507. CONTRACTOR TO FIELD VERIFY LOCATION AND INVERT ELEVATION & NOTIFY OWNER/ENGINEER IF ANY CONFLICTS
15. CONSTRUCT PIPE BEDDING PER CITY OF HUNTINGTON BEACH STD. DWG 503
16. CONSTRUCT THRUST BLOCK PER CITY OF HUNTINGTON BEACH STD. DWG. 614
17. INSTALL 6" 90° BEND (FLGxFLG)
18. CONSTRUCT PIPE BEDDING PER CITY OF HUNTINGTON BEACH STD. DWG. 606A
19. FURNISH & INSTALL STOP SIGN R1-1
20. CONSTRUCT CONCRETE PAD FOR SLIDING GATE PER DETAIL "GR-4" HEREON
21. CONSTRUCT LOCKABLE REMOVABLE BOLLARD PER DETAIL "GR-5" HEREON
22. REMOVE AND REPLACE EXISTING WATER METER STRUCTURE/LID WITH TRAFFIC RATED H20 LOADING STRUCTURE/LID (PER EXISTING MANUFACTURER'S STANDARDS OR EQUAL)
23. CONTRACTOR TO NOTIFY OWNER/ENGINEER ANY AREAS NOT IN GOOD CONDITION. ADJUSTMENT CAN BE MADE TO REMOVE AND REPLACE EXISTING DAMAGED AC PAVEMENT

LEGEND:

- CONCRETE WALKWAY
- GRIND & OVERLAY
- FULL DEPTH AC PAVEMENT

GRAPHIC SCALE

10 5 0 10 20

SCALE IN FEET
1 inch = 10 ft.

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REGISTERED PROFESSIONAL ENGINEER TRYTON A. TRYFOROPOULOS NO. 65859 EXP.12/31/21 CIVIL STATE OF CALIFORNIA

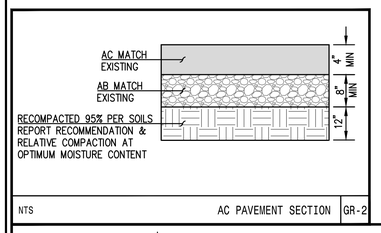
Project:
Tenant Improvement for:
AES HUNTINGTON BEACH
- SITE ENTRANCE
21730 NEWLAND STREET
HUNTINGTON BEACH, CA 92646

REVISIONS	
CLIENT SUBMITTAL	08/06/2021
1 P.C.C. #1	09/10/2021

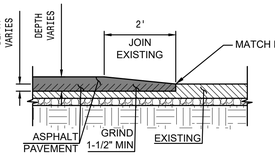
Project Manager: TT
Date: 10/6/2021
Scale:
Project Number: 2103004
Sheet Title: PRECISE GRADING PLAN

SHEET NUMBER

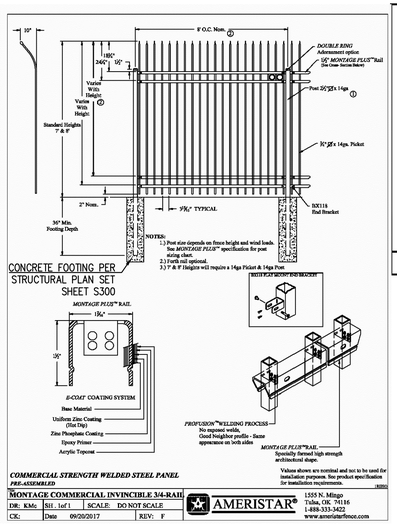
C03

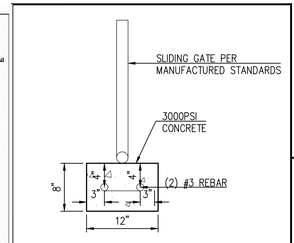


NTS — AC PAVEMENT SECTION — GR-2

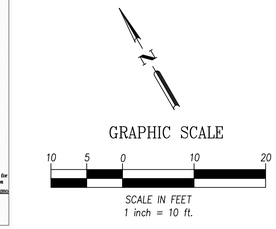


NTS — GRIND & OVERLAY — GR-1



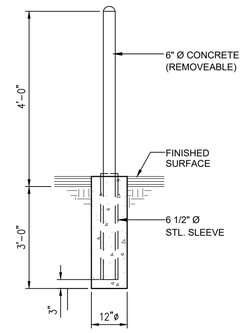


N.T.S — CONCRETE PAD FOR SLIDING GATE — GR-4

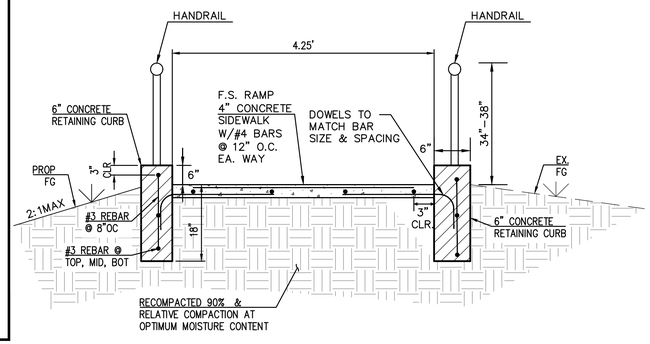


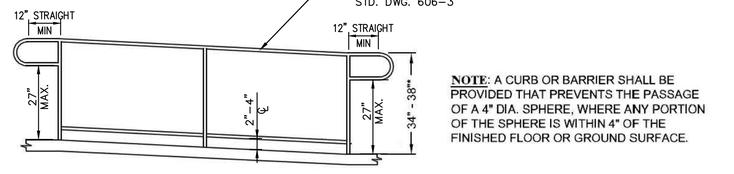
NOTE:

*CONTRACTOR TO FIELD VERIFY SIZE, LOCATION, AND ELEVATION OF EXISTING UTILITY LINE. NOTIFY OWNER/ARCHITECT/ENGINEER IF ANY CONFLICTS



N.T.S — LOCKING REMOVABLE CONCRETE BOLLARD — GR-5





NOTE: A CURB OR BARRIER SHALL BE PROVIDED THAT PREVENTS THE PASSAGE OF A 4" DIA. SPHERE, WHERE ANY PORTION OF THE SPHERE IS WITHIN 4" OF THE FINISHED FLOOR OR GROUND SURFACE.

HANDRAILS AND ACCESSIBLE RAMP

SCALE: NTS

NTS — ACCESSIBLE RAMP WITH HANDRAIL — GR-3

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PLOT DATE/TIME: 10/1/2021 11:25 AM
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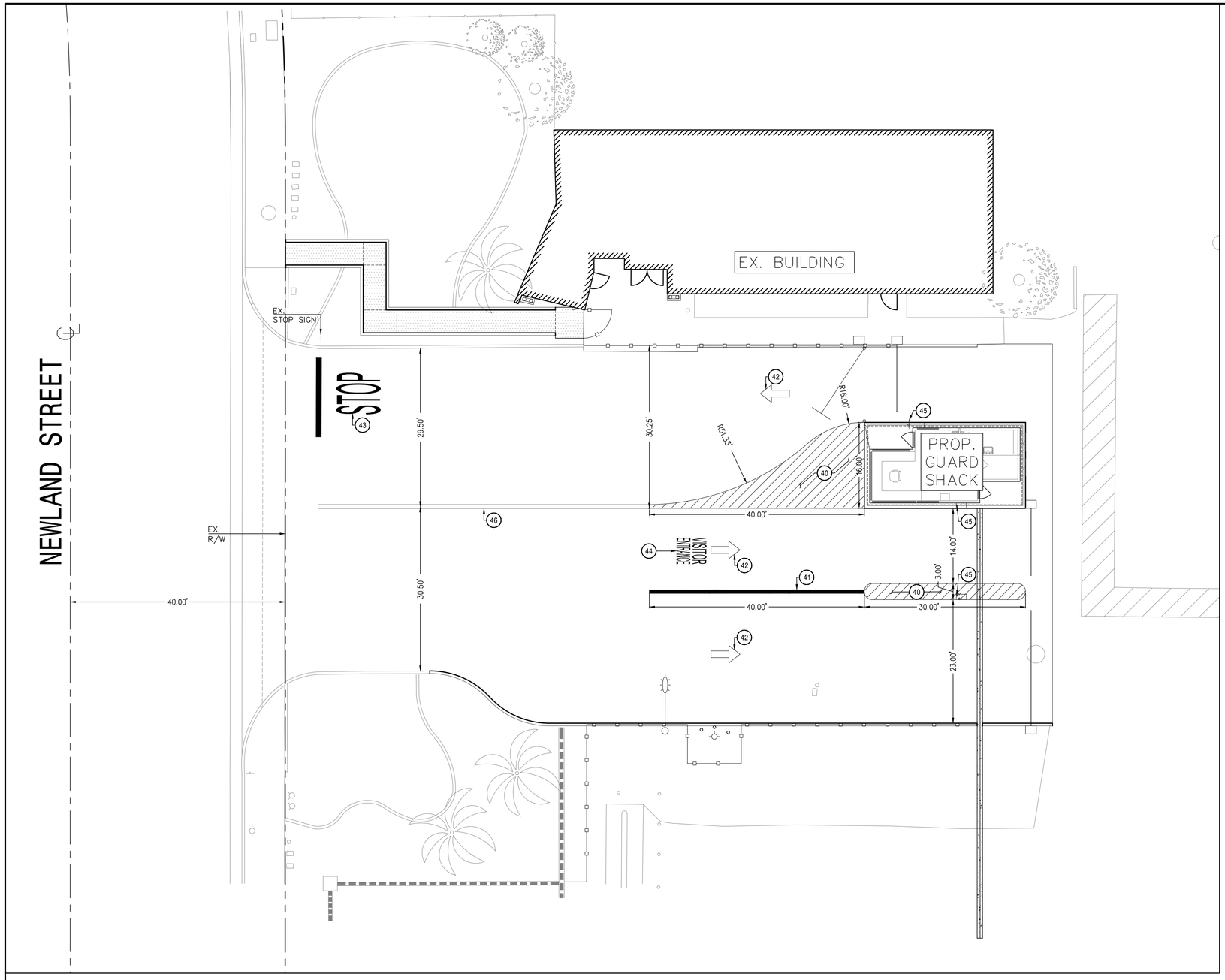
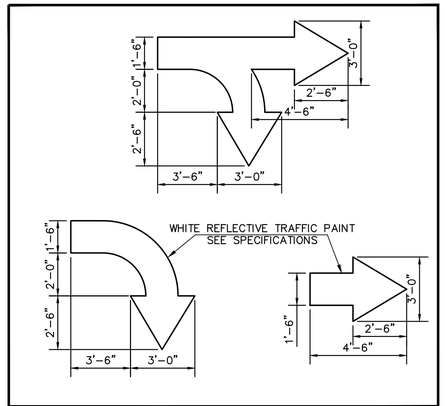
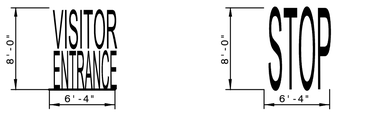




NTS — DIRECTIONAL AND TURN ARROWS — SI1



NTS — STENCILING — SI2

STRIPING AND SIGNAGE NOTES

(40) PAINT 4" WIDE WHITE BORDER & STRIPES @ 3' O.C.

(41) PAINT 8" WIDE SOLID WHITE LINE

(42) STENCIL DIRECTIONAL ARROWS PER DETAIL "SI1" HEREON.

(43) PAINT "STOP" STENCIL WITH LIMIT LINE PER DETAIL "SI2" HEREON.

(44) PAINT "VISITORS" STENCIL PER DETAIL "SI2" HEREON.

(45) FURNISH AND INSTALL STOP SIGN PER GRADING PLAN CONSTRUCTION NOTE "8B" SHEET C03.

(46) PAINT 4" WIDE DOUBLE SOLID WHITE LINE

GRAPHIC SCALE

10 5 0 10 20

SCALE IN FEET
1 inch = 10 ft.

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CIVIL
STATE OF CALIFORNIA
10/07/21

Project:
Tenant Improvement for:
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21730 NEWLAND STREET
HUNTINGTON BEACH, CA 92646

REVISIONS	
CLIENT SUBMITTAL	08/06/2021
1 P.C.C. #1	09/10/2021

Project Manager: TT
Date: 10/7/2021
Scale:
Project Number: 2103004

Sheet Title: STRIPING PLAN

SHEET NUMBER
C04

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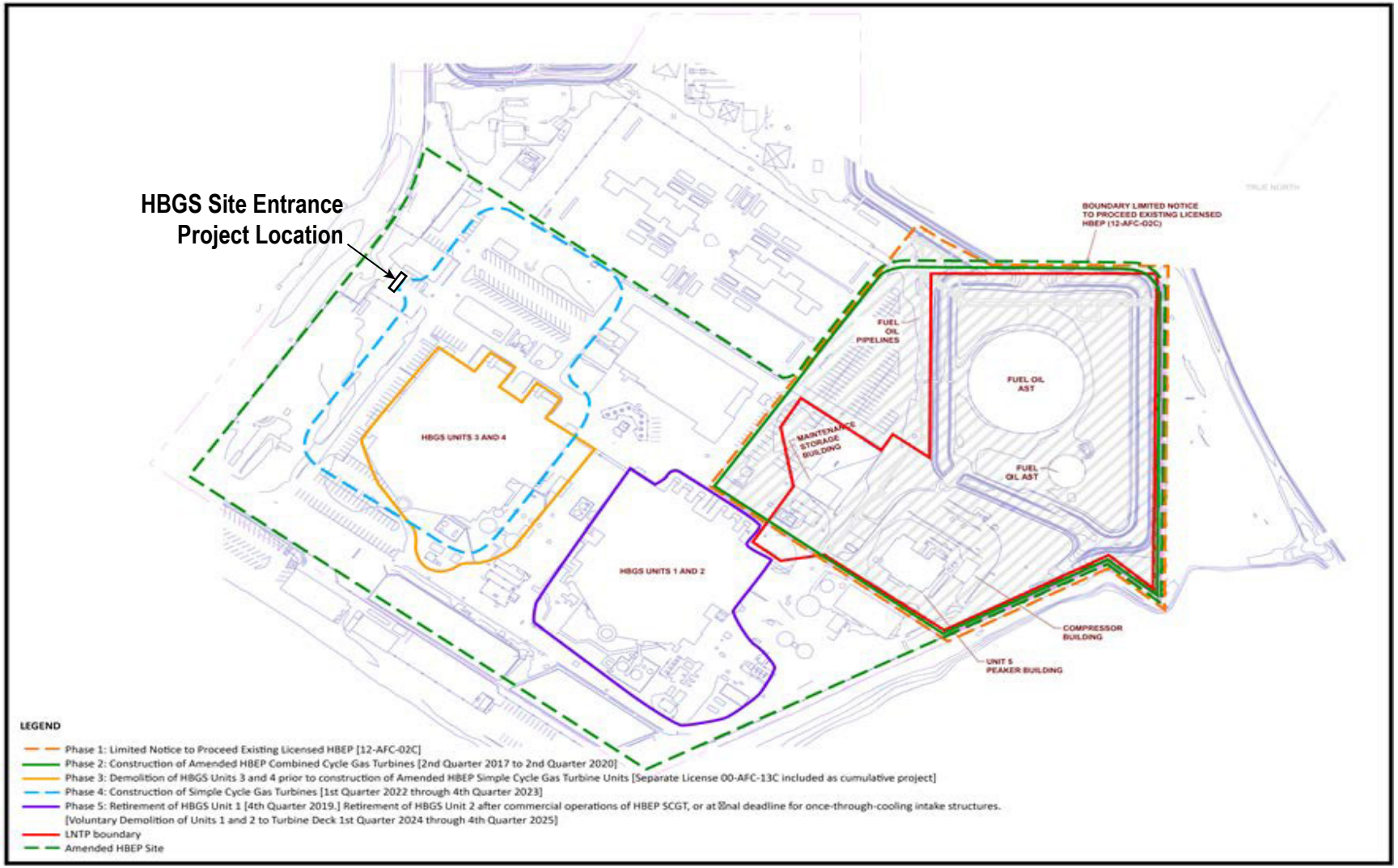
Attachment 2.2
Final Amendment Decision, Project Description – Figure 2

Project Description - Figure 2
General Layout for the Amended Project



Attachment 2.3
Applicable COCs

Condition	Req. or Copy	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
GEN-1	CBO REQUIRED	The project owner shall design, construct, and inspect the project in accordance with the applicable edition of the California Building Standards Code (CBSC)1, also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving (onsite), demolition, repair, or maintenance of the completed facility. In the event that the initial engineering designs are submitted to the CBO when the successor to the 2013 CBSC is in effect, the 2013 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above.	Within 30 days following receipt of the certificate of occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO.	**New Certificate of Occupancy to be delivered for the installation of the guard shack and entrance improvements only.**
GEN-3	CBO REQUIRED	The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the applicable edition of the CBC, adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be otherwise agreed upon by the project owner and the CBO.	The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO.	
GEN-6	CBO REQUIRED	Prior to the start of an activity requiring special inspection, including prefabricated assemblies, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the applicable edition of the CBC. A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels). The special inspector shall: 1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection; 2. Inspect the work assigned for conformance with the approved design drawings and specifications; 3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and 4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.	~~At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next monthly compliance report.~~ ~~If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.~~ **Please Provide all special inspection records to DCBO.**	**Please provide all special inspection records to DCBO.**
GEN-7	CBO REQUIRED	If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.	The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval. **Submit all discrepancy documentation and updated construction documents to CBO for approval.**	
GEN-8	CBO REQUIRED	The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.	Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents. Within 90 days of the completion of construction, the project owner shall provide to the CBO ~~three sets of~~ electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" (Adobe .pdf 6.0 or newer version) files, with restricted (password-protected) printing privileges, on archive quality compact discs.	
CIVIL-1	CBO REQUIRED	The project owner shall submit to the CBO for review and approval the following: 1. Design of the proposed drainage structures and the grading plan; 2. An erosion and sedimentation control plan; 3. A construction storm water pollution prevention plan (SWPPP); 4. Related calculations and specifications, signed and stamped by the responsible civil engineer; and 5. Soils, geotechnical, or foundation investigations reports required by the applicable edition of the CBC.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.	
CIVIL-2	CBO REQUIRED	The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area.	The project owner shall notify the CPM within 24 hours when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.	
CIVIL-3	CBO REQUIRED	The project owner shall perform inspections in accordance with the applicable edition of the CBC. All plant site-grading operations, for which a grading permit is required, shall be subject to inspection by the CBO. If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.	Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a non-conformance report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following monthly compliance report.	

Condition	Req. or Copy	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
CIVIL-4	CBO REQUIRED	After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans.	Within 30 days (or project owner- and CBO-approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.	Applicable only if site grading is to occur
STRUC-1	CBO REQUIRED	Prior to the start of any increment of construction, the project owner shall submit plans, calculations and other supporting documentation to the CBO for design review and acceptance for all project structures and equipment identified in the CBO-approved master drawing and master specifications list. The design plans and calculations shall include the lateral force procedures and details as well as vertical calculations. Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component. The project owner shall: 1. Obtain approval from the CBO of lateral force procedures proposed for project structures; 2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (for example, highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications; 3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation; 4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer; and 5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS.	At least 60 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in the CBO-approved master drawing and master specifications list, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of the transmittal letter to the CPM. The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.	
STRUC-2	CBO REQUIRED	The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval: 1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters); 2. Concrete pour sign-off sheets; 3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques); 4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and 5. Reports covering other structural activities requiring special inspections shall be in accordance with the applicable edition of the CBC.	If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.	
STRUC-3	CBO REQUIRED	The project owner shall submit to the CBO design changes to the final plans required by the applicable edition of the CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing.	On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the monthly compliance report, when the CBO has approved the revised plans.	
MECH-1	CBO REQUIRED	The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in the CBO-approved master drawing and master specifications list. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction. The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in the CBO-approved master drawing and master specifications list, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report. The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.	If applicable
MECH-3	CBO REQUIRED	The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations, and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets. The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.	If applicable

Condition	Req. or Copy	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
ELEC-1	CBO REQUIRED	Prior to the start of any increment of electrical construction for all electrical equipment and systems 110 Volts or higher (see a representative list, below) the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. A. Final plant design plans shall include: 1. one-line diagram for the 13.8 kV, 4.16 kV and 110/480 V systems; 2. system grounding drawings; 3. lightning protection system; and 4. hazard area classification plan. B. Final plant calculations must establish: 1. short-circuit ratings of plant equipment; 2. ampacity of feeder cables; 3. voltage drop in feeder cables; 4. system grounding requirements; 5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 110/480 V systems; 6. system grounding requirements; 7. lighting energy calculations; and 8. 110 volt system design calculations and submittals showing feeder sizing, transformer and panel load confirmation, fixture schedules and layout plans. C. The following activities shall be reported to the CPM in the monthly compliance report: 1. Receipt or delay of major electrical equipment; 2. Testing or energizing of major electrical equipment; and 3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission decision.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.	
WORKER SAFETY-1	CBO REQUIRED	The project owner shall submit to the compliance project manager (CPM) a copy of the Project Construction Health and Safety Program containing the following: • a Construction Personal Protective Equipment Program; • a Construction Exposure Monitoring Program; • a Construction Injury and Illness Prevention Program; • a Construction Emergency Action Plan; and • a Construction Fire Prevention Plan. The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the Long Beach Fire Department for review and comment prior to submittal to the CPM for approval.	~~At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction and Safety and Health Program. The project owner shall provide to the CPM a copy of a letter from the Long Beach Fire Department stating the fire department's comments on the Construction Fire Prevention Plan and Emergency Action Plan have been addressed.~~	**Compliance with calOSHA regulations will be observed and documented when CBO staff is on site. Any deviation/violation will be reported to the onsite CSS.**
WORKER SAFETY-3	CBO REQUIRED	The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall: • have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs; • assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects; • assure that all construction and commissioning workers and supervisors receive adequate safety training, including tsunami preparation and response training; • complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and • assure that all the plans identified in Conditions of Certification WORKER SAFETY-1 and -2 are implemented.	At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction/Demolition Safety Supervisor (CSS). The contact information of any replacement CSS shall be submitted to the CPM within one business day. The project owner shall ensure that the CSS submits in the Monthly Compliance Report a monthly safety inspection report to include: • record of all employees trained for that month (all records shall be kept on site for the duration of the project); • summary report of safety management actions and safety-related incidents that occurred during the month; • report of any continuing or unresolved situations and incidents that may pose danger to life or health including near misses; • report any visits from Cal/OSHA and/or any complaints from workers to Cal/OSHA; and • report of accidents, near misses, and injuries that occurred during the month.	If applicable **Please provide contact information for onsite CSS to CBO prior to the start of construction.**
WASTE-3	CBO COPIED	Prior to demolition of existing structures the project owner shall complete and submit a SCAQMD Asbestos Demolition Notification Form to the CPM and the SCAQMD. Once submitted the project owner shall remove all asbestos-containing material (ACM) from the site prior to demolition.	No less than sixty (60) days prior to commencement of structure demolition, the project owner shall provide the Asbestos Demolition Notification Form and any update notifications to the CPM and to the SCAQMD. The project owner shall inform the CPM via the monthly compliance report, of the data when all ACM is removed from the site.	If applicable
SOIL&WATER-1	CBO REQUIRED	The project owner shall manage stormwater pollution from construction activities by fulfilling the requirements contained in State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWG, NPDES No. CAS000002) and all subsequent revisions and amendments. The project owner shall develop and implement a construction Stormwater Pollution Prevention Plan (SWPPP) for the construction of the project.	30 days prior to site mobilization, the project owner shall submit the construction SWPPP to the delegate chief building official (CBO) and compliance project manager (CPM) for review and the SWRCB for review and approval. A copy of the construction SWPPP shall be kept accessible onsite at all times. ~~Within ten days of its mailing or receipt, the project owner shall submit to the CPM any correspondence between the project owner and the Los Angeles RWQCB about the general NPDES permit for discharge of stormwater associated with construction and land disturbance activities. This information shall include a copy of the notice of intent and the notice of termination submitted by the project owner to the SWRCB~~.	
GEO-1	CBO REQUIRED	The project owner shall provide to the Certified Building Official (CBO) a Soils Engineering Report, as required by Section 1803 of the California Building Code (CBC) (2013) or the most current version succeeding that code in effect at the time construction of the project were to commence, shall specifically include laboratory test data, associated geotechnical engineering analyses, and a thorough discussion of seismicity; liquefaction; dynamic compaction; compressible soils; corrosive soils; and tsunami. In accordance with CBC, the report must also include recommendations for ground improvement and/or foundation systems necessary to mitigate these potential geologic hazards, if present.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the Soils Engineering Report to the CBO for design review and approval. Submittal of the report shall be coordinated with reports required in accordance with CIVIL-1. The submittal shall include a summary of how the results of the report were incorporated into the project foundation and grading plan design.	If applicable

Condition	Req. or Copy	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
NOISE-6	**CBO COPIED**	Heavy equipment operation and noisy construction and demolition work relating to any project features, including pile driving, shall be restricted to the times delineated below: AEC: Mondays through Fridays and designated holidays: 7:00 a.m. to 7:00 p.m. Saturdays: 9:00 a.m. to 6:00 p.m. Sundays: Construction not allowed HBEP: Mondays through Saturdays: 7:00 a.m. to 8:00 p.m. Sundays and Federal Holidays: Construction not allowed Limited construction activities may be performed outside of the above hours, with CPM approval as set forth below. Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers and other state-required noise attenuation devices. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use (jake braking) shall be limited to emergencies.	Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project. In consultation with the CPM, construction equipment generating excessive noise shall be updated or replaced if beneficial in reducing the noise and if feasible. In addition, temporary acoustic barriers shall be installed around stationary construction noise sources if beneficial in reducing the noise and if feasible. The project owner shall reorient construction equipment, and relocate construction staging areas, when possible, to minimize the noise impact at nearest noise-sensitive receptors. At least 10 days prior to any heavy equipment operation or noisy construction activities that would occur outside of the above hours, the project owner shall submit a request to the CPM for review and approval. The request submitted to the CPM shall specify the activities that need to occur outside of the restricted days and times set forth above; the need for such activities; the days, dates, and times during which these activities will occur; the approximate distance of activities to residential and other sensitive receptors; the expected sound levels at these receptors; and a statement that the activities will be performed in a manner to ensure excessive noise is prohibited as much as practicable. At the same time, the project owner shall notify the residents and property owners within one-half mile of the project site of the request. In this notification, the project owner shall state that it will perform this activity in a manner to ensure excessive noise is avoided as much as practicable.	Adherence to this COC is required during construction installation of entrance improvements.

Entrance Improvements Compliance Matrix
Huntington Beach Energy Project (12-AFC-02C)
List of Applicable Construction Air Quality Conditions of Certification

Condition	Title	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
AQ-SC1	Air Quality Construction Mitigation Manager (AQCMM)	The project owner shall designate and have during construction/demolition activities an AQCMM who shall be responsible for directing and documenting compliance with Conditions AQ-SC3, AQ-SC4, and AQ-SC5 for the entire duration of project site construction/demolition. The project owner may elect to assign one or more AQCMMs as well. The on-site AQCMM may delegate responsibilities to one or more AQCMM delegates. The AQCMM and AQCMM delegates shall have full access to all areas of construction/demolition on the project site, and shall have the authority to stop any or all construction/demolition activities as warranted by applicable construction/demolition mitigation conditions. The AQCMM and AQCMM delegates may have other responsibilities in addition to those described in this condition.	At least 60 days prior to the start of ground disturbance, the project owner shall submit to the Compliance Project Manager (CPM) for approval the name, resume, qualifications, and contact information for the first on-site AQCMM and all AQCMM delegates. The AQCMM and all delegates must be approved by the CPM before the start of ground disturbance. An AQCMM may be replaced after ground disturbance if the replacement AQCMM has been approved by the CPM.	CEC previously approved H. Zhuang as AQCMM and Jerry Salamy as AQCMM Delegate on 5/16/17. AES will assess the need for additional or new AQCMM Delegates prior to initiating work on this project.
AQ-SC2	Air Quality Construction Mitigation Plan (AQCMP)	The project owner shall provide, for approval, an AQCMP that details the steps to be taken and the reporting requirements necessary to ensure compliance with Conditions of Certification AQ-SC3, AQ-SC4, and AQ-SC5.	At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.	CEC approved previous AQCMP on 5/18/17. AES will assess the need for any modifications prior to initiating work on this project.
AQ-SC3	Construction Fugitive Dust Control	Project owner shall implement the following control measures to mitigate for any increases in regional criteria pollutants during construction, including fugitive dust. The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the AQCMP mitigation measures for purposes of minimizing fugitive dust emissions creation from construction activities and preventing all fugitive dust plumes from leaving the project's boundary. The following fugitive dust mitigation measures shall be included in the AQCMP required by AQ-SC2, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval. A. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemical, replacement parts, etc.) will be paved prior to taking initial deliveries. B. All unpaved construction roads and unpaved operation site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be both as efficient or more efficient for fugitive dust control as California Air Resources Board (CARB) approved soil stabilizers, and shall not increase any other environmental impacts including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other disturbed areas in the project construction site shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification AQ-SC4. The frequency of watering can be reduced or eliminated during periods of precipitation. C. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. D. The construction site entrances shall be posted with visible speed limit signs. E. Wheel washers shall be installed for all exiting trucks and equipment, or wheels shall be inspected and washed (as necessary) to remove accumulated dirt prior to leaving the site. F. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station. G. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways. H. All construction vehicles shall enter the construction site through the treated entrance roadways unless an alternative route has been submitted to and approved by the CPM. I. Sandbags or other erosion control measures shall be installed consistent with the requirements of the Storm Water Pollution Prevention Plan (SWPPP). J. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris. K. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or run-off resulting from the construction site activities is visible on the public paved roadways. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. L. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or treated with appropriate dust suppressant compounds. M. When bulk materials are transported offsite, all materials that have the potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least two feet of freeboard. N. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.	The AQCMM shall provide the CPM a MCR to include the following to demonstrate control of fugitive dust emissions: A. A summary of all actions taken to maintain compliance with this condition; and B. Copies of any air quality-related complaints filed with the air district or facility representatives in relation to project construction; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	To be addressed in the MCRs.
AQ-SC4	Dust Plume Response Requirement	The AQCMM or an AQCMM delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner indicates that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed: Step 1: The AQCMM or delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination. Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1, specified above, fails to result in adequate mitigation within 30 minutes of the original determination. Step 3: The AQCMM or delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown activity. The owner/ operator may appeal to the CPM any directive from the AQCMM or delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.	The AQCMM shall provide the CPM a MCR to include: A. A summary of all actions taken to maintain compliance with this condition; B. Copies of any air quality-related complaints filed with the air district or facility representatives in relation to project construction; and C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	To be addressed in the MCRs.

Entrance Improvements Compliance Matrix
Huntington Beach Energy Project (12-AFC-02C)
List of Applicable Construction Air Quality Conditions of Certification

Condition	Title	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Comments
AQ-SC5	Diesel-Fuled Engine Control	The AQCMM shall submit to the CPM, in the MCR, a table that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related combustion emissions. Any deviation from the AQCMP mitigation measures requires prior CPM notification and approval. All off-road diesel construction equipment used in the construction of this facility shall be powered by the cleanest engines available that also comply with the CARB's Regulation for In-Use Off-Road Diesel Fleets and shall be included in the AQCMP required by AQ-SC2. The AQCMP measures shall include the following, with the lowest-emitting engine chosen in each case, as available: A. All off-road vehicles with compression ignition engines shall comply with the CARB's Regulation for In-Use Off-Road Diesel Fleets (California Code of Regulation Title 13, Article 4.8, Chapter 9, §2449 et. seq.). B. To meet the highest level of emissions reduction available for the engine family of the equipment, each piece of diesel-powered equipment shall be powered by a Tier 4 engine (without add-on controls) or Tier 4i engine (without add-on controls), or a Tier 3 engine with a post-combustion retrofit device verified by the CARB or the U.S. Environmental Protection Agency (EPA). For particulate matter, the retrofit device shall be a particulate filter if verified, or a flow-through filter, or at least an oxidation catalyst. For nitrogen oxides (NOx), the device shall meet the latest Mark level verified to be available. C. For diesel powered equipment where the requirements of Part "b" cannot be met, the equipment shall be equipped with a Tier 3 engine without retrofit control devices or with a Tier 2 or lower Tier engine using retrofit controls verified by CARB or EPA as the best available control device to reduce exhaust emissions of particulate matter and NOx unless certified by engine manufacturers or the onsite AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices can be considered "not practical" for the following, as well as other, reasons: 1. There is no available retrofit control device that has been verified by either the CARB or EPA to control the engine in question and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or 2. The use of the retrofit device would unduly restrict the vision of the operator such that the vehicle would be unsafe to operate because the device would impair the operator's vision to the front, sides, or rear of the vehicle, or 3. The construction equipment is intended to be on site for 10 work days or less. D. The CPM may grant relief from a requirement in Part "b" or "c" if the AQCMM can demonstrate a good faith effort to comply with the requirement and that compliance is not practical. E. The use of a retrofit control device may be terminated immediately provided that the CPM is informed within 10 working days of the termination and a replacement for the equipment item in question meeting the level of control required occurs within 10 work days of termination of the use (if the equipment would be needed to continue working at this site for more than 15 work days after the use of the retrofit control device is terminated) if one of the following conditions exists: 1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in exhaust back pressure. 2. The retrofit control device is causing or is reasonably expected to cause engine damage. 3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public. 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination. F. All equipment with engines meeting the requirements above shall be properly maintained and the engines tuned to the engine manufacturer's specifications. Each engine shall be in its original configuration and the equipment or engine must be replaced if it exceeds the manufacturer's approved oil consumption rate. G. Construction equipment will employ electric motors when feasible. H. If the requirements detailed above cannot be met, the AQCMM shall certify that a good faith effort was made to meet these requirements and this determination must be approved by the CPM. I. All off-road diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.	The AQCMM shall include in the MCR the following to demonstrate control of diesel construction-related emissions: A. A summary of all actions taken to control diesel construction related emissions; B. A list of all heavy equipment used on site during that month, showing the tier level of each engine and the basis for alternative compliance with this condition for each engine not meeting Part "b" or Part "c" requirements. The list shall include the owner of the equipment and a letter from each owner indicating that the equipment has been properly maintained; and C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	To be addressed in the MCRs.

Attachment 3.1
CalEEMod Report of Results

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

HBEP Construction

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	3.50	1000sqft	0.08	3,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The project site is located in Huntington Beach, Orange County, California.

Land Use - Project area of 3,500 square feet was used based on Civil Drawings. No building-specific dimensions were included at this time, based on the expectation that the new guard facilities will be prefabricated.

Construction Phase - Construction Duration was assumed to be 18 weeks total; assumed construction time period of October 1, 2022 to February 3, 2023 for 18 full weeks.

Trips and VMT - Assumed 8 workers per day with a default one-way commute distance of 14.7 miles. Assumed 2 delivery truck trips per day with a default one-way distance of 6.9 miles.

Vehicle Trips - No operational emissions.

Road Dust - No operational emissions.

Consumer Products - No operational emissions.

Area Coating - No operational emissions.

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

Landscape Equipment - No operational emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissions.

Construction Off-road Equipment Mitigation -

Area Mitigation - No operational emissions.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe and Concrete/Industrial Saw would be needed for Demolition Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Site Preparation Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Grading Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe, one Forklift, and one Crane would be needed for Building Construction Activities and that the Crane would be used in only limited capacity.

Off-road Equipment - Assumed only two Cement and Mortar Mixers, one Paver, one Roller, and one Tractor/Loader/Backhoe would be needed for Paving Activities.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	Area_Nonresidential_Exterior	1750	0
tblAreaCoating	Area_Nonresidential_Interior	5250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	67.00
tblConsumerProducts	ROG_EF	1.98E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0

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

tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.99	0.00
tblEnergyUse	NT24E	3.83	0.00
tblEnergyUse	NT24NG	6.86	0.00
tblEnergyUse	T24E	1.45	0.00
tblEnergyUse	T24NG	13.90	0.00
tblLandscapeEquipment	NumberSummerDays	250	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	4.34	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	1.00	8.00

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

tblTripsAndVMT	WorkerTripNumber	18.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	809,375.00	0.00

2.0 Emissions Summary

HBEP Construction - Orange County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0112	0.1040	0.1258	2.1000e-004	8.8400e-003	5.5300e-003	0.0144	3.4700e-003	5.1500e-003	8.6200e-003	0.0000	18.9246	18.9246	4.4000e-003	2.3000e-004	19.1038
2023	0.0204	0.0373	0.0491	8.0000e-005	1.2600e-003	1.8500e-003	3.1000e-003	3.4000e-004	1.7200e-003	2.0500e-003	0.0000	7.3816	7.3816	1.8100e-003	8.0000e-005	7.4521
Maximum	**0.0204**	**0.1040**	**0.1258**	**2.1000e-004**	**8.8400e-003**	**5.5300e-003**	**0.0144**	**3.4700e-003**	**5.1500e-003**	**8.6200e-003**	**0.0000**	**18.9246**	**18.9246**	**4.4000e-003**	**2.3000e-004**	**19.1038**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0112	0.1040	0.1258	2.1000e-004	8.8400e-003	5.5300e-003	0.0144	3.4700e-003	5.1500e-003	8.6200e-003	0.0000	18.9246	18.9246	4.4000e-003	2.3000e-004	19.1037
2023	0.0204	0.0373	0.0491	8.0000e-005	1.2600e-003	1.8500e-003	3.1000e-003	3.4000e-004	1.7200e-003	2.0500e-003	0.0000	7.3816	7.3816	1.8100e-003	8.0000e-005	7.4521
Maximum	**0.0204**	**0.1040**	**0.1258**	**2.1000e-004**	**8.8400e-003**	**5.5300e-003**	**0.0144**	**3.4700e-003**	**5.1500e-003**	**8.6200e-003**	**0.0000**	**18.9246**	**18.9246**	**4.4000e-003**	**2.3000e-004**	**19.1037**

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

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2022**	**12-31-2022**	0.1161	0.1161
2	**1-1-2023**	**3-31-2023**	0.0565	0.0565
		Highest	0.1161	0.1161

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2022	10/14/2022	5	10	
2	Site Preparation	Site Preparation	10/15/2022	10/17/2022	5	1	
3	Grading	Grading	10/18/2022	10/19/2022	5	2	

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

4	Building Construction	Building Construction	10/20/2022	1/20/2023	5	67	
5	Paving	Paving	1/21/2023	1/27/2023	5	5	
6	Architectural Coating	Architectural Coating	1/28/2023	2/3/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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

Site Preparation	2	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4100e-003	0.0203	0.0267	4.0000e-005		1.0900e-003	1.0900e-003		1.0600e-003	1.0600e-003	0.0000	3.7131	3.7131	4.8000e-004	0.0000	3.7250
Total	**2.4100e-003**	**0.0203**	**0.0267**	**4.0000e-005**		**1.0900e-003**	**1.0900e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**3.7131**	**3.7131**	**4.8000e-004**	**0.0000**	**3.7250**

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	2.0000e-005	4.7000e-004	1.6000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1881	0.1881	1.0000e-005	3.0000e-005	0.1965
Worker	1.2000e-004	9.0000e-005	1.2500e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3448	0.3448	1.0000e-005	1.0000e-005	0.3476
Total	**1.4000e-004**	**5.6000e-004**	**1.4100e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.1000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.5330**	**0.5330**	**2.0000e-005**	**4.0000e-005**	**0.5441**

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	2.4100e-003	0.0203	0.0267	4.0000e-005		1.0900e-003	1.0900e-003		1.0600e-003	1.0600e-003	0.0000	3.7131	3.7131	4.8000e-004	0.0000	3.7250
Total	**2.4100e-003**	**0.0203**	**0.0267**	**4.0000e-005**		**1.0900e-003**	**1.0900e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**3.7131**	**3.7131**	**4.8000e-004**	**0.0000**	**3.7250**

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

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	2.0000e-005	4.7000e-004	1.6000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1881	0.1881	1.0000e-005	3.0000e-005	0.1965
Worker	1.2000e-004	9.0000e-005	1.2500e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3448	0.3448	1.0000e-005	1.0000e-005	0.3476
Total	**1.4000e-004**	**5.6000e-004**	**1.4100e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.1000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.5330**	**0.5330**	**2.0000e-005**	**4.0000e-005**	**0.5441**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	8.4000e-004	1.1200e-003	0.0000		5.0000e-005	5.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1366	0.1366	4.0000e-005	0.0000	0.1377
Total	**8.0000e-005**	**8.4000e-004**	**1.1200e-003**	**0.0000**	**2.7000e-004**	**5.0000e-005**	**3.2000e-004**	**3.0000e-005**	**4.0000e-005**	**7.0000e-005**	**0.0000**	**0.1366**	**0.1366**	**4.0000e-005**	**0.0000**	**0.1377**

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

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	5.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0188	0.0188	0.0000	0.0000	0.0196
Worker	1.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0345	0.0345	0.0000	0.0000	0.0348
Total	**1.0000e-005**	**6.0000e-005**	**1.5000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0533**	**0.0533**	**0.0000**	**0.0000**	**0.0544**

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	8.4000e-004	1.1200e-003	0.0000		5.0000e-005	5.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1366	0.1366	4.0000e-005	0.0000	0.1377
Total	**8.0000e-005**	**8.4000e-004**	**1.1200e-003**	**0.0000**	**2.7000e-004**	**5.0000e-005**	**3.2000e-004**	**3.0000e-005**	**4.0000e-005**	**7.0000e-005**	**0.0000**	**0.1366**	**0.1366**	**4.0000e-005**	**0.0000**	**0.1377**

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

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	5.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0188	0.0188	0.0000	0.0000	0.0196
Worker	1.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0345	0.0345	0.0000	0.0000	0.0348
Total	**1.0000e-005**	**6.0000e-005**	**1.5000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0533**	**0.0533**	**0.0000**	**0.0000**	**0.0544**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.4700e-003	1.9600e-003	0.0000		8.0000e-005	8.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.2391	0.2391	8.0000e-005	0.0000	0.2411
Total	**1.4000e-004**	**1.4700e-003**	**1.9600e-003**	**0.0000**	**5.3100e-003**	**8.0000e-005**	**5.3900e-003**	**2.5700e-003**	**7.0000e-005**	**2.6400e-003**	**0.0000**	**0.2391**	**0.2391**	**8.0000e-005**	**0.0000**	**0.2411**

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

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	9.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0376	0.0376	0.0000	1.0000e-005	0.0393
Worker	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0695
Total	**2.0000e-005**	**1.1000e-004**	**2.8000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**1.0000e-005**	**0.1088**

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					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.4700e-003	1.9600e-003	0.0000		8.0000e-005	8.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.2391	0.2391	8.0000e-005	0.0000	0.2411
Total	**1.4000e-004**	**1.4700e-003**	**1.9600e-003**	**0.0000**	**5.3100e-003**	**8.0000e-005**	**5.3900e-003**	**2.5700e-003**	**7.0000e-005**	**2.6400e-003**	**0.0000**	**0.2391**	**0.2391**	**8.0000e-005**	**0.0000**	**0.2411**

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

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	9.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0376	0.0376	0.0000	1.0000e-005	0.0393
Worker	2.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0695
Total	**2.0000e-005**	**1.1000e-004**	**2.8000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**1.0000e-005**	**0.1088**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7100e-003	0.0777	0.0868	1.3000e-004		4.2700e-003	4.2700e-003		3.9300e-003	3.9300e-003	0.0000	11.3716	11.3716	3.6800e-003	0.0000	11.4635
Total	**7.7100e-003**	**0.0777**	**0.0868**	**1.3000e-004**		**4.2700e-003**	**4.2700e-003**		**3.9300e-003**	**3.9300e-003**	**0.0000**	**11.3716**	**11.3716**	**3.6800e-003**	**0.0000**	**11.4635**

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

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	9.0000e-005	2.4400e-003	8.4000e-004	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	0.9783	0.9783	6.0000e-005	1.4000e-004	1.0215
Worker	6.3000e-004	4.7000e-004	6.5100e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.7931	1.7931	4.0000e-005	5.0000e-005	1.8076
Total	**7.2000e-004**	**2.9100e-003**	**7.3500e-003**	**3.0000e-005**	**2.6100e-003**	**3.0000e-005**	**2.6500e-003**	**7.0000e-004**	**3.0000e-005**	**7.4000e-004**	**0.0000**	**2.7714**	**2.7714**	**1.0000e-004**	**1.9000e-004**	**2.8291**

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	7.7100e-003	0.0777	0.0868	1.3000e-004		4.2700e-003	4.2700e-003		3.9300e-003	3.9300e-003	0.0000	11.3716	11.3716	3.6800e-003	0.0000	11.4635
Total	**7.7100e-003**	**0.0777**	**0.0868**	**1.3000e-004**		**4.2700e-003**	**4.2700e-003**		**3.9300e-003**	**3.9300e-003**	**0.0000**	**11.3716**	**11.3716**	**3.6800e-003**	**0.0000**	**11.4635**

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

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	9.0000e-005	2.4400e-003	8.4000e-004	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	0.9783	0.9783	6.0000e-005	1.4000e-004	1.0215
Worker	6.3000e-004	4.7000e-004	6.5100e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.7931	1.7931	4.0000e-005	5.0000e-005	1.8076
Total	**7.2000e-004**	**2.9100e-003**	**7.3500e-003**	**3.0000e-005**	**2.6100e-003**	**3.0000e-005**	**2.6500e-003**	**7.0000e-004**	**3.0000e-005**	**7.4000e-004**	**0.0000**	**2.7714**	**2.7714**	**1.0000e-004**	**1.9000e-004**	**2.8291**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0400e-003	0.0205	0.0249	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2826	3.2826	1.0600e-003	0.0000	3.3091
Total	**2.0400e-003**	**0.0205**	**0.0249**	**4.0000e-005**		**1.0500e-003**	**1.0500e-003**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**3.2826**	**3.2826**	**1.0600e-003**	**0.0000**	**3.3091**

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

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.5000e-004	2.2000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2689	0.2689	2.0000e-005	4.0000e-005	0.2808
Worker	1.7000e-004	1.2000e-004	1.7500e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5008	0.5008	1.0000e-005	1.0000e-005	0.5047
Total	**1.8000e-004**	**6.7000e-004**	**1.9700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7697**	**0.7697**	**3.0000e-005**	**5.0000e-005**	**0.7855**

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	2.0400e-003	0.0205	0.0249	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2825	3.2825	1.0600e-003	0.0000	3.3091
Total	**2.0400e-003**	**0.0205**	**0.0249**	**4.0000e-005**		**1.0500e-003**	**1.0500e-003**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**3.2825**	**3.2825**	**1.0600e-003**	**0.0000**	**3.3091**

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

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.5000e-004	2.2000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2689	0.2689	2.0000e-005	4.0000e-005	0.2808
Worker	1.7000e-004	1.2000e-004	1.7500e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5008	0.5008	1.0000e-005	1.0000e-005	0.5047
Total	**1.8000e-004**	**6.7000e-004**	**1.9700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7697**	**0.7697**	**3.0000e-005**	**5.0000e-005**	**0.7855**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0124	0.0164	3.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	2.1780	2.1780	6.7000e-004	0.0000	2.1946
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3100e-003**	**0.0124**	**0.0164**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.1780**	**2.1780**	**6.7000e-004**	**0.0000**	**2.1946**

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

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	6.0000e-005	4.0000e-005	5.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1669	0.1669	0.0000	0.0000	0.1682
Total	**6.0000e-005**	**2.2000e-004**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2566**	**0.2566**	**1.0000e-005**	**1.0000e-005**	**0.2618**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0124	0.0164	3.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	2.1780	2.1780	6.7000e-004	0.0000	2.1946
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3100e-003**	**0.0124**	**0.0164**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.1780**	**2.1780**	**6.7000e-004**	**0.0000**	**2.1946**

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

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	6.0000e-005	4.0000e-005	5.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1669	0.1669	0.0000	0.0000	0.1682
Total	**6.0000e-005**	**2.2000e-004**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2566**	**0.2566**	**1.0000e-005**	**1.0000e-005**	**0.2618**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0167**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

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

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	6.0000e-005	4.0000e-005	5.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1669	0.1669	0.0000	0.0000	0.1682
Total	**6.0000e-005**	**2.2000e-004**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2566**	**0.2566**	**1.0000e-005**	**1.0000e-005**	**0.2618**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0167**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

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

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	6.0000e-005	4.0000e-005	5.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1669	0.1669	0.0000	0.0000	0.1682
Total	**6.0000e-005**	**2.2000e-004**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2566**	**0.2566**	**1.0000e-005**	**1.0000e-005**	**0.2618**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

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

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

HBEP Construction

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	3.50	1000sqft	0.08	3,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The project site is located in Huntington Beach, Orange County, California.

Land Use - Project area of 3,500 square feet was used based on Civil Drawings. No building-specific dimensions were included at this time, based on the expectation that the new guard facilities will be prefabricated.

Construction Phase - Construction Duration was assumed to be 18 weeks total; assumed construction time period of October 1, 2022 to February 3, 2023 for 18 full weeks.

Trips and VMT - Assumed 8 workers per day with a default one-way commute distance of 14.7 miles. Assumed 2 delivery truck trips per day with a default one-way distance of 6.9 miles.

Vehicle Trips - No operational emissions.

Road Dust - No operational emissions.

Consumer Products - No operational emissions.

Area Coating - No operational emissions.

HBEP Construction - Orange County, Summer

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

Landscape Equipment - No operational emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissions.

Construction Off-road Equipment Mitigation -

Area Mitigation - No operational emissions.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe and Concrete/Industrial Saw would be needed for Demolition Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Site Preparation Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Grading Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe, one Forklift, and one Crane would be needed for Building Construction Activities and that the Crane would be used in only limited capacity.

Off-road Equipment - Assumed only two Cement and Mortar Mixers, one Paver, one Roller, and one Tractor/Loader/Backhoe would be needed for Paving Activities.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	Area_Nonresidential_Exterior	1750	0
tblAreaCoating	Area_Nonresidential_Interior	5250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	67.00
tblConsumerProducts	ROG_EF	1.98E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0

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

tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.99	0.00
tblEnergyUse	NT24E	3.83	0.00
tblEnergyUse	NT24NG	6.86	0.00
tblEnergyUse	T24E	1.45	0.00
tblEnergyUse	T24NG	13.90	0.00
tblLandscapeEquipment	NumberSummerDays	250	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	4.34	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	1.00	8.00

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

tblTripsAndVMT	WorkerTripNumber	18.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	809,375.00	0.00

2.0 Emissions Summary

HBEP Construction - Orange County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5086	4.1638	5.6379	9.7500e-003	5.4142	0.2191	5.4944	2.5959	0.2136	2.6698	0.0000	938.8423	938.8423	0.1602	7.7100e-003	943.8816
2023	6.7052	5.0368	6.8318	0.0113	0.1022	0.2436	0.3458	0.0274	0.2259	0.2533	0.0000	1,076.0721	1,076.0721	0.2980	7.3200e-003	1,085.7009
Maximum	**6.7052**	**5.0368**	**6.8318**	**0.0113**	**5.4142**	**0.2436**	**5.4944**	**2.5959**	**0.2259**	**2.6698**	**0.0000**	**1,076.0721**	**1,076.0721**	**0.2980**	**7.7100e-003**	**1,085.7009**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5086	4.1638	5.6379	9.7500e-003	5.4142	0.2191	5.4944	2.5959	0.2136	2.6698	0.0000	938.8423	938.8423	0.1602	7.7100e-003	943.8816
2023	6.7052	5.0368	6.8318	0.0113	0.1022	0.2436	0.3458	0.0274	0.2259	0.2533	0.0000	1,076.0721	1,076.0721	0.2980	7.3200e-003	1,085.7009
Maximum	**6.7052**	**5.0368**	**6.8318**	**0.0113**	**5.4142**	**0.2436**	**5.4944**	**2.5959**	**0.2259**	**2.6698**	**0.0000**	**1,076.0721**	**1,076.0721**	**0.2980**	**7.7100e-003**	**1,085.7009**

HBEP Construction - Orange County, Summer

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

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

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	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	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**0.0000**	**8.2000e-004**

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	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	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	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**0.0000**	**8.2000e-004**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	10/1/2022	10/14/2022	5	10	
2	Site Preparation	Site Preparation	10/15/2022	10/17/2022	5	1	
3	Grading	Grading	10/18/2022	10/19/2022	5	2	
4	Building Construction	Building Construction	10/20/2022	1/20/2023	5	67	
5	Paving	Paving	1/21/2023	1/27/2023	5	5	
6	Architectural Coating	Architectural Coating	1/28/2023	2/3/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29

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

Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4812	4.0579	5.3431	8.5900e-003		0.2178	0.2178		0.2124	0.2124		818.5939	818.5939	0.1054		821.2288
Total	**0.4812**	**4.0579**	**5.3431**	**8.5900e-003**		**0.2178**	**0.2178**		**0.2124**	**0.2124**		**818.5939**	**818.5939**	**0.1054**		**821.2288**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4812	4.0579	5.3431	8.5900e-003		0.2178	0.2178		0.2124	0.2124	0.0000	818.5939	818.5939	0.1054		821.2288
Total	**0.4812**	**4.0579**	**5.3431**	**8.5900e-003**		**0.2178**	**0.2178**		**0.2124**	**0.2124**	**0.0000**	**818.5939**	**818.5939**	**0.1054**		**821.2288**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

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

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

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

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

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

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726		263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**5.3119**	**0.0789**	**5.3908**	**2.5686**	**0.0726**	**2.6411**		**263.5841**	**263.5841**	**0.0853**		**265.7153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

HBEP Construction - Orange County, Summer

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

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726	0.0000	263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**5.3119**	**0.0789**	**5.3908**	**2.5686**	**0.0726**	**2.6411**	**0.0000**	**263.5841**	**263.5841**	**0.0853**		**265.7153**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

HBEP Construction - Orange County, Summer

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

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2965	2.9899	3.3398	4.9800e-003		0.1643	0.1643		0.1511	0.1511		482.1159	482.1159	0.1559		486.0140
Total	**0.2965**	**2.9899**	**3.3398**	**4.9800e-003**		**0.1643**	**0.1643**		**0.1511**	**0.1511**		**482.1159**	**482.1159**	**0.1559**		**486.0140**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

HBEP Construction - Orange County, Summer

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

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2965	2.9899	3.3398	4.9800e-003		0.1643	0.1643		0.1511	0.1511	0.0000	482.1159	482.1159	0.1559		486.0140
Total	**0.2965**	**2.9899**	**3.3398**	**4.9800e-003**		**0.1643**	**0.1643**		**0.1511**	**0.1511**	**0.0000**	**482.1159**	**482.1159**	**0.1559**		**486.0140**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0241	0.0162	0.2629	7.8000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		78.7769	78.7769	1.8500e-003	1.7700e-003	79.3508
Total	**0.0274**	**0.1059**	**0.2948**	**1.1600e-003**	**0.1022**	**1.3500e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**120.2484**	**120.2484**	**4.2300e-003**	**7.7100e-003**	**122.6528**

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

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2722	2.7324	3.3192	4.9800e-003		0.1402	0.1402		0.1290	0.1290		482.4520	482.4520	0.1560		486.3529
Total	**0.2722**	**2.7324**	**3.3192**	**4.9800e-003**		**0.1402**	**0.1402**		**0.1290**	**0.1290**		**482.4520**	**482.4520**	**0.1560**		**486.3529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

HBEP Construction - Orange County, Summer

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

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2722	2.7324	3.3192	4.9800e-003		0.1402	0.1402		0.1290	0.1290	0.0000	482.4520	482.4520	0.1560		486.3529
Total	**0.2722**	**2.7324**	**3.3192**	**4.9800e-003**		**0.1402**	**0.1402**		**0.1290**	**0.1290**	**0.0000**	**482.4520**	**482.4520**	**0.1560**		**486.3529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

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

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5230	4.9523	6.5584	0.0102		0.2428	0.2428		0.2251	0.2251		960.3133	960.3133	0.2939		967.6619
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5230**	**4.9523**	**6.5584**	**0.0102**		**0.2428**	**0.2428**		**0.2251**	**0.2251**		**960.3133**	**960.3133**	**0.2939**		**967.6619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

HBEP Construction - Orange County, Summer

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

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5230	4.9523	6.5584	0.0102		0.2428	0.2428		0.2251	0.2251	0.0000	960.3133	960.3133	0.2939		967.6619
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5230**	**4.9523**	**6.5584**	**0.0102**		**0.2428**	**0.2428**		**0.2251**	**0.2251**	**0.0000**	**960.3133**	**960.3133**	**0.2939**		**967.6619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

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

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.4890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**6.6807**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

HBEP Construction - Orange County, Summer

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

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.4890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**6.6807**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0225	0.0144	0.2443	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		76.2689	76.2689	1.6800e-003	1.6500e-003	76.8018
Total	**0.0246**	**0.0845**	**0.2734**	**1.1100e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.6000e-004**	**0.0282**		**115.7588**	**115.7588**	**4.0300e-003**	**7.3200e-003**	**118.0390**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Unmitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004

HBEP Construction - Orange County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**		**8.2000e-004**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**		**8.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

HBEP Construction - Orange County, Winter

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

HBEP Construction

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	3.50	1000sqft	0.08	3,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The project site is located in Huntington Beach, Orange County, California.

Land Use - Project area of 3,500 square feet was used based on Civil Drawings. No building-specific dimensions were included at this time, based on the expectation that the new guard facilities will be prefabricated.

Construction Phase - Construction Duration was assumed to be 18 weeks total; assumed construction time period of October 1, 2022 to February 3, 2023 for 18 full weeks.

Trips and VMT - Assumed 8 workers per day with a default one-way commute distance of 14.7 miles. Assumed 2 delivery truck trips per day with a default one-way distance of 6.9 miles.

Vehicle Trips - No operational emissions.

Road Dust - No operational emissions.

Consumer Products - No operational emissions.

Area Coating - No operational emissions.

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

Landscape Equipment - No operational emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissions.

Construction Off-road Equipment Mitigation -

Area Mitigation - No operational emissions.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe and Concrete/Industrial Saw would be needed for Demolition Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Site Preparation Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe would be needed for Grading Activities.

Off-road Equipment - Assumed only one Tractor/Loader/Backhoe, one Forklift, and one Crane would be needed for Building Construction Activities and that the Crane would be used in only limited capacity.

Off-road Equipment - Assumed only two Cement and Mortar Mixers, one Paver, one Roller, and one Tractor/Loader/Backhoe would be needed for Paving Activities.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	Area_Nonresidential_Exterior	1750	0
tblAreaCoating	Area_Nonresidential_Interior	5250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	67.00
tblConsumerProducts	ROG_EF	1.98E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0

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

tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.99	0.00
tblEnergyUse	NT24E	3.83	0.00
tblEnergyUse	NT24NG	6.86	0.00
tblEnergyUse	T24E	1.45	0.00
tblEnergyUse	T24NG	13.90	0.00
tblLandscapeEquipment	NumberSummerDays	250	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	4.34	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	1.00	8.00

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

tblTripsAndVMT	WorkerTripNumber	18.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	809,375.00	0.00

2.0 Emissions Summary

HBEP Construction - Orange County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5107	4.1689	5.6208	9.7100e-003	5.4142	0.2191	5.4944	2.5959	0.2136	2.6698	0.0000	935.0785	935.0785	0.1602	7.8300e-003	940.1544
2023	6.7072	5.0413	6.8160	0.0113	0.1022	0.2436	0.3458	0.0274	0.2259	0.2533	0.0000	1,072.4838	1,072.4838	0.2980	7.4300e-003	1,082.1487
Maximum	**6.7072**	**5.0413**	**6.8160**	**0.0113**	**5.4142**	**0.2436**	**5.4944**	**2.5959**	**0.2259**	**2.6698**	**0.0000**	**1,072.4838**	**1,072.4838**	**0.2980**	**7.8300e-003**	**1,082.1487**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5107	4.1689	5.6208	9.7100e-003	5.4142	0.2191	5.4944	2.5959	0.2136	2.6698	0.0000	935.0785	935.0785	0.1602	7.8300e-003	940.1544
2023	6.7072	5.0413	6.8160	0.0113	0.1022	0.2436	0.3458	0.0274	0.2259	0.2533	0.0000	1,072.4838	1,072.4838	0.2980	7.4300e-003	1,082.1487
Maximum	**6.7072**	**5.0413**	**6.8160**	**0.0113**	**5.4142**	**0.2436**	**5.4944**	**2.5959**	**0.2259**	**2.6698**	**0.0000**	**1,072.4838**	**1,072.4838**	**0.2980**	**7.8300e-003**	**1,082.1487**

HBEP Construction - Orange County, Winter

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

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

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	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	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**0.0000**	**8.2000e-004**

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	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	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	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**0.0000**	**8.2000e-004**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	10/1/2022	10/14/2022	5	10	
2	Site Preparation	Site Preparation	10/15/2022	10/17/2022	5	1	
3	Grading	Grading	10/18/2022	10/19/2022	5	2	
4	Building Construction	Building Construction	10/20/2022	1/20/2023	5	67	
5	Paving	Paving	1/21/2023	1/27/2023	5	5	
6	Architectural Coating	Architectural Coating	1/28/2023	2/3/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29

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

Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4812	4.0579	5.3431	8.5900e-003		0.2178	0.2178		0.2124	0.2124		818.5939	818.5939	0.1054		821.2288
Total	**0.4812**	**4.0579**	**5.3431**	**8.5900e-003**		**0.2178**	**0.2178**		**0.2124**	**0.2124**		**818.5939**	**818.5939**	**0.1054**		**821.2288**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4812	4.0579	5.3431	8.5900e-003		0.2178	0.2178		0.2124	0.2124	0.0000	818.5939	818.5939	0.1054		821.2288
Total	**0.4812**	**4.0579**	**5.3431**	**8.5900e-003**		**0.2178**	**0.2178**		**0.2124**	**0.2124**	**0.0000**	**818.5939**	**818.5939**	**0.1054**		**821.2288**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726		263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**5.3119**	**0.0789**	**5.3908**	**2.5686**	**0.0726**	**2.6411**		**263.5841**	**263.5841**	**0.0853**		**265.7153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726	0.0000	263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**5.3119**	**0.0789**	**5.3908**	**2.5686**	**0.0726**	**2.6411**	**0.0000**	**263.5841**	**263.5841**	**0.0853**		**265.7153**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

HBEP Construction - Orange County, Winter

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

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2965	2.9899	3.3398	4.9800e-003		0.1643	0.1643		0.1511	0.1511		482.1159	482.1159	0.1559		486.0140
Total	**0.2965**	**2.9899**	**3.3398**	**4.9800e-003**		**0.1643**	**0.1643**		**0.1511**	**0.1511**		**482.1159**	**482.1159**	**0.1559**		**486.0140**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

HBEP Construction - Orange County, Winter

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

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2965	2.9899	3.3398	4.9800e-003		0.1643	0.1643		0.1511	0.1511	0.0000	482.1159	482.1159	0.1559		486.0140
Total	**0.2965**	**2.9899**	**3.3398**	**4.9800e-003**		**0.1643**	**0.1643**		**0.1511**	**0.1511**	**0.0000**	**482.1159**	**482.1159**	**0.1559**		**486.0140**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0262	0.0178	0.2447	7.4000e-004	0.0894	4.8000e-004	0.0899	0.0237	4.4000e-004	0.0242		75.0001	75.0001	1.8900e-003	1.8800e-003	75.6089
Total	**0.0295**	**0.1110**	**0.2777**	**1.1200e-003**	**0.1022**	**1.3600e-003**	**0.1036**	**0.0274**	**1.2800e-003**	**0.0287**		**116.4846**	**116.4846**	**4.2600e-003**	**7.8300e-003**	**118.9256**

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

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2722	2.7324	3.3192	4.9800e-003		0.1402	0.1402		0.1290	0.1290		482.4520	482.4520	0.1560		486.3529
Total	**0.2722**	**2.7324**	**3.3192**	**4.9800e-003**		**0.1402**	**0.1402**		**0.1290**	**0.1290**		**482.4520**	**482.4520**	**0.1560**		**486.3529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2722	2.7324	3.3192	4.9800e-003		0.1402	0.1402		0.1290	0.1290	0.0000	482.4520	482.4520	0.1560		486.3529
Total	**0.2722**	**2.7324**	**3.3192**	**4.9800e-003**		**0.1402**	**0.1402**		**0.1290**	**0.1290**	**0.0000**	**482.4520**	**482.4520**	**0.1560**		**486.3529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5230	4.9523	6.5584	0.0102		0.2428	0.2428		0.2251	0.2251		960.3133	960.3133	0.2939		967.6619
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5230**	**4.9523**	**6.5584**	**0.0102**		**0.2428**	**0.2428**		**0.2251**	**0.2251**		**960.3133**	**960.3133**	**0.2939**		**967.6619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5230	4.9523	6.5584	0.0102		0.2428	0.2428		0.2251	0.2251	0.0000	960.3133	960.3133	0.2939		967.6619
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5230**	**4.9523**	**6.5584**	**0.0102**		**0.2428**	**0.2428**		**0.2251**	**0.2251**	**0.0000**	**960.3133**	**960.3133**	**0.2939**		**967.6619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.4890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**6.6807**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.4890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**6.6807**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0246	0.0158	0.2276	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		72.6226	72.6226	1.7200e-003	1.7500e-003	73.1879
Total	**0.0266**	**0.0890**	**0.2576**	**1.0800e-003**	**0.1022**	**8.2000e-004**	**0.1030**	**0.0274**	**7.7000e-004**	**0.0282**		**112.1705**	**112.1705**	**4.0600e-003**	**7.4300e-003**	**114.4868**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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 Light Industry	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Unmitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**		**8.2000e-004**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.7000e-004	7.7000e-004	0.0000		8.2000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.7000e-004**	**7.7000e-004**	**0.0000**		**8.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3.9
Screening HRA Details

Attachment 3.9, Table 1
Construction HRA Emission Rates
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Emission Rates for HRA Modeling of Construction DPM Emissions

Source Grouping	Diesel Particulate Matter (g/s)	Diesel Particulate Matter (lb/yr) [b,c]
Construction Total	2.12E-04	14.8
Construction Point (per source) [a]	1.01E-05	0.70

Notes:
[a] Modeled emissions only include exhaust from construction equipment and vehicles, assuming PM_{10} is representative of diesel particulate matter (DPM).
[b] Number of point sources modeled: 21
[c] Because project construction is expected to last only 18 weeks, annualized emissions were assumed equal to the total project emissions.

Attachment 3.9, Table 2
AERMOD Source Inputs for Construction HRA
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Source ID	Stack Release Type	Easting (X) [a] (m)	Northing (Y) [a] (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	DPM Emission Rate [b] (g/s)
P1	HORIZONTAL	409,163.00	3,723,309.00	3.28	4.6	533	18	0.127	1.011E-05
P2	HORIZONTAL	409,160.20	3,723,304.85	3.19	4.6	533	18	0.127	1.011E-05
P3	HORIZONTAL	409,157.41	3,723,300.71	3.18	4.6	533	18	0.127	1.011E-05
P4	HORIZONTAL	409,167.15	3,723,306.20	3.24	4.6	533	18	0.127	1.011E-05
P5	HORIZONTAL	409,164.35	3,723,302.06	3.31	4.6	533	18	0.127	1.011E-05
P6	HORIZONTAL	409,161.55	3,723,297.91	3.47	4.6	533	18	0.127	1.011E-05
P7	HORIZONTAL	409,171.29	3,723,303.41	3.60	4.6	533	18	0.127	1.011E-05
P8	HORIZONTAL	409,168.49	3,723,299.26	3.53	4.6	533	18	0.127	1.011E-05
P9	HORIZONTAL	409,165.70	3,723,295.12	3.45	4.6	533	18	0.127	1.011E-05
P10	HORIZONTAL	409,175.44	3,723,300.61	3.44	4.6	533	18	0.127	1.011E-05
P11	HORIZONTAL	409,172.64	3,723,296.47	3.47	4.6	533	18	0.127	1.011E-05
P12	HORIZONTAL	409,169.84	3,723,292.32	3.57	4.6	533	18	0.127	1.011E-05
P13	HORIZONTAL	409,179.58	3,723,297.82	3.71	4.6	533	18	0.127	1.011E-05
P14	HORIZONTAL	409,176.78	3,723,293.67	3.93	4.6	533	18	0.127	1.011E-05
P15	HORIZONTAL	409,173.99	3,723,289.53	3.76	4.6	533	18	0.127	1.011E-05
P16	HORIZONTAL	409,183.73	3,723,295.02	3.68	4.6	533	18	0.127	1.011E-05
P17	HORIZONTAL	409,180.93	3,723,290.87	3.65	4.6	533	18	0.127	1.011E-05
P18	HORIZONTAL	409,178.13	3,723,286.73	3.68	4.6	533	18	0.127	1.011E-05
P19	HORIZONTAL	409,187.87	3,723,292.22	3.77	4.6	533	18	0.127	1.011E-05
P20	HORIZONTAL	409,185.08	3,723,288.08	3.87	4.6	533	18	0.127	1.011E-05
P21	HORIZONTAL	409,182.28	3,723,283.93	3.99	4.6	533	18	0.127	1.011E-05

Note:
[a] Coordinates are provided in NAD83 UTM Projection, Zone 11.
[b] DPM emission rates taken from Attachment 3.9, Table 1, assuming even distribution amongst the modeled sources within the construction area.

Attachment 3.9, Table 3
Cancer Impacts due to Construction Diesel Particulate Matter
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Modeled Concentrations
Maximum annual impact of annualized project emissions

PMI	0.02056	$\mu g/m^3$	Diesel PM
MEIR	0.00629	$\mu g/m^3$	Diesel PM
Sensitive	0.00629	$\mu g/m^3$	Diesel PM
MEIW	0.02056	$\mu g/m^3$	Diesel PM

Construction HRA per the 2015 OEHHA Guidance
Residential Calculation Procedure for Cancer Risks

PMI

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	7.13E-06	2.15E-05	2.15E-05	1.70E-05	1.70E-05	1.70E-05	1.70E-05	1.70E-05	1.70E-05	1.47E-05	1.47E-05	1.47E-05	1.47E-05	1.47E-05	1.47E-05	1.47E-05	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06
Risk	2.38E-07	2.87E-06	2.87E-06	5.77E-07	5.77E-07	5.77E-07	5.77E-07	5.77E-07	5.77E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08
Rolling 1-yr Risk [a]		3.11E-06	2.87E-06	5.77E-07	5.77E-07	5.77E-07	5.77E-07	5.77E-07	5.77E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	4.99E-07	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08	7.59E-08
Risk per Million		3.11	2.87	0.58	0.58	0.58	0.58	0.58	0.58	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

MEIR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	2.18E-06	6.58E-06	6.58E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06
Risk	7.28E-08	8.79E-07	8.79E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
Rolling 1-yr Risk [a]		9.52E-07	8.79E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
Risk per Million		0.95	0.88	0.18	0.18	0.18	0.18	0.18	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

MESR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	2.18E-06	6.58E-06	6.58E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	4.50E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06	2.02E-06
Risk	7.28E-08	8.79E-07	8.79E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
Rolling 1-yr Risk [a]		9.52E-07	8.79E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	1.53E-07	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
Risk per Million		0.95	0.88	0.18	0.18	0.18	0.18	0.18	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Worker Calculation Procedure for Cancer Risks

MEIW

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Dose (mg/kg/day)	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06	3.22E-06
Risk	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08
Rolling 1-yr Risk [a]	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08	5.05E-08
Risk per Million	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

Note:
[a] Cancer risk was summed on an annual (1-year rolling) basis to conservatively mirror the 18-week duration of project construction.

Attachment 3.9, Table 4
Chronic Impacts due to Construction Diesel Particulate Matter
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Construction HRA per the 2015 OEHHA Guidance
Calculation Procedure for Chronic Hazard Index

Receptor Type	Pollutant	Maximum Annual Modeled Concentration ($\mu g/m^3$) [a]	REL ($\mu g/m^3$) [b]	Chronic Hazard Index
PMI	Diesel PM	0.02056	5	0.0041
MEIR	Diesel PM	0.00629	5	0.0013
MESR	Diesel PM	0.00629	5	0.0013
MEIW	Diesel PM	0.02056	5	0.0041

Notes:

[a] Maximum Annual Modeled Concentrations taken from Attachment 3.9, Table 3.

[b] REL taken from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA & CARB 2020).

Attachment 3.9, Table 5
Residential Constants for Cancer Risk
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Dose Constants

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BR/BW	361	1090	1090	861	861	861	861	861	861	745	745	745	745	745	745	745	335	335	335	335	335	335	335	335	335	335	335	335	335	335	335
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Conversion	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001

Risk Constants

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CPF (Diesel PM)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
ASF	10	10	10	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ED	0.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AT	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
FAH	0.85	0.85	0.85	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73

A. Equation 5.4.1.1: $\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. {BR/BW} = Daily Breathing rate normalized to body weight (L/kg body weight - day)
4. A = Inhalation absorption factor (unitless)
5. EF = Exposure frequency (unitless), days/365 days
6. 10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.

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

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

a: Recommended default values for EQ 8.2.4 A:

5. $DOSE_{air}$ = Calculated for each age group from Eq. 5.4.1
6. CPF = Substance-specific (see Table 7.1)
7. ASF = See Section 8.2.1
8. ED = 0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70
9. AT = 70 years*
10. FAH = See Table 8.4

Attachment 3.9, Table 6
Worker Constants for Cancer Risk
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022

Dose Constants

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
WAF [a]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BR/BW	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EF	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Conversion	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001

Risk Constants

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CPF (Diesel PM)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
ASF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AT	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70

Attachment 3.9, Table 6
Worker Constants for Cancer Risk
HBEP: Remodel the Site Entrance Gate and Install a Security Guard Shack
August 2022
Notes:
[a] Conservatively assumes construction activities occur 24 hours per day, 7 days per week.

A. Equation 5.4.1.2 A: $\text{Dose-air} = (C_{air} \times WAF) \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Annual average concentration in air ($\mu g/m^3$)
3. WAF = Worker air concentration adjustment factor (unitless)
4. {BR/BW} = Eight-hour breathing rate normalized to body weight (L/kg body weight - day)
5. A = Inhalation absorption factor (unitless)
6. EF = Exposure frequency (unitless), days/365 days)
7. 10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.2 A:

1. WAF = See EQ. 5.4.1.2 B for formula to calculate WAF, or App. M for refined post-processing modeling to calculate WAF.
2. {BR/BW} = For workers, use age16-70 year, 95th percentile, moderate intensity 8-hour point estimate breathing rates (see Table 5.8). No worker breathing rate distributions exist for stochastic risk assessment.
3. A = 1
4. EF = 0.68 (250 days / 365 days). Equivalent to working 5 days/week, 50 weeks/year.

b: Assumption for EQ 5.4.1.2 A:

1. The fraction of chemical absorbed (A) through the lungs is the same fraction absorbed in the study on which the cancer potency factor is based.

B. Equation 5.4.1.2 B: $WAF = (H_{res} / H_{source}) \times (D_{res} / D_{source}) \times DF$

1. WAF = Worker adjustment factor (unitless)
2. H_{res} = Number of hours per day the annual average residential air concentration is based on (always 24 hours)
3. H_{source} = Number of hours the source operates per day
4. D_{res} = Number of days per week the annual average residential air concentration is based on (always 7 days)
5. D_{source} = Number of days the emitting source operates per week
6. DF = Discount factor, for when the offsite worker's schedule partially overlaps the source's emission schedule

b: Recommended default values for EQ 5.4.1.2 B:

1. DF = 1 for offsite worker's schedule occurring within the source's emission schedule. A site-specific survey may be used to adjust the DF using EQ 5.4.1.2 C.

C. Equation 5.4.1.2 C: $DF = (H_{coincident} / H_{worker}) \times (D_{coincident} / D_{worker})$

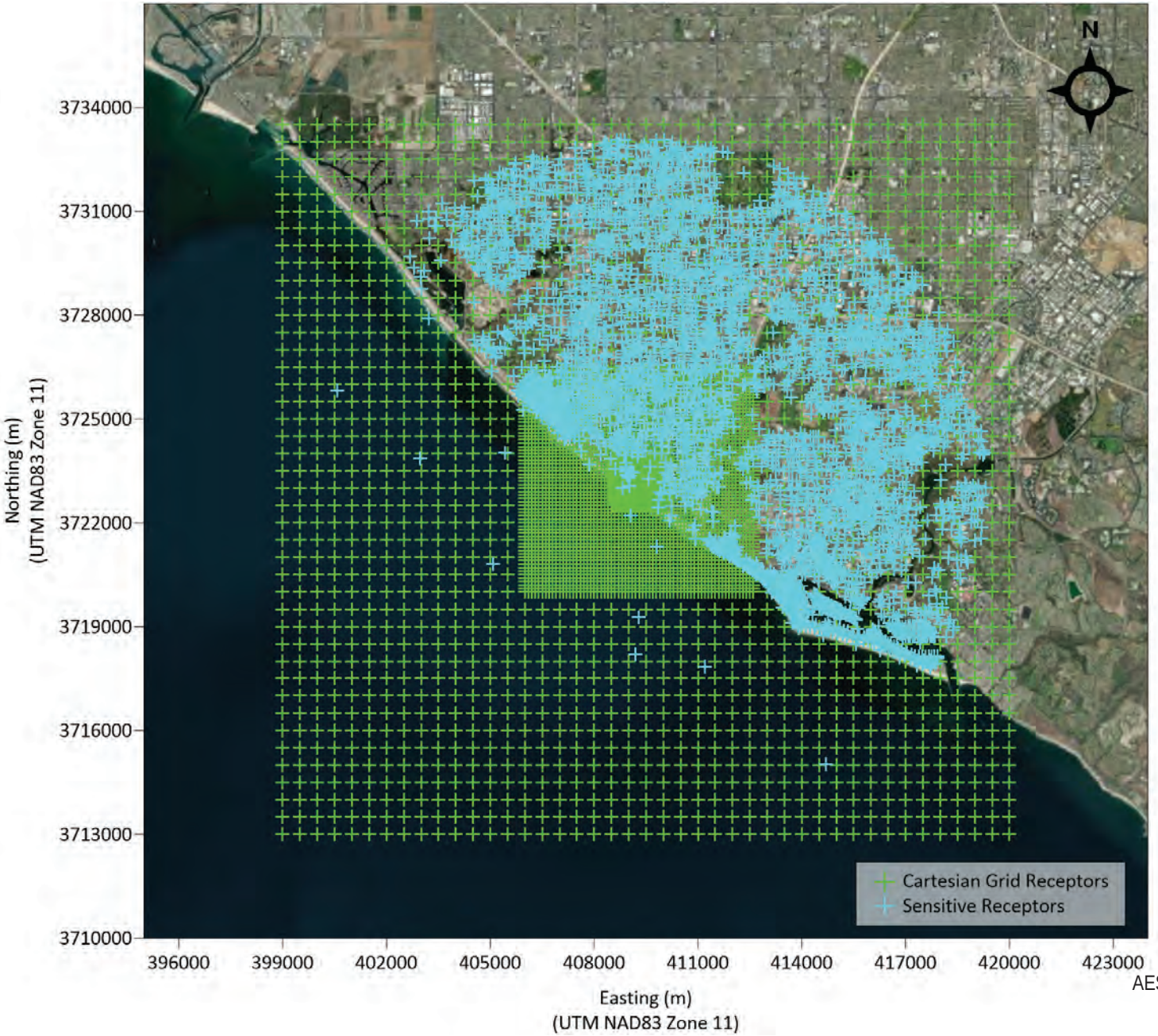
1. $H_{coincident}$ = Number of hours per day the offsite worker's schedule and the source's emission schedule coincide
2. H = Number of hours the offsite worker works per day

B. Equation 8.2.4 B: $RISK_{inh\text{-}work} = DOSE_{air} \times CPF \times ASF \times ED/AT$

1. $RISK_{inh\text{-}work}$ = Worker inhalation cancer risk

a: Recommended default values for EQ 8.2.4 B:

1. $DOSE_{air}$ = Calculated for workers in Eq. 5.4.1.2
2. CPF = Substance specific (see Table 7.1)
3. ASF = 1 for working age 16-70 yrs (See Section 8.2.1)
4. ED = 25 years



Attachment 3.9, Figure 1
Receptor Grid
AES Huntington Beach Energy Project
Huntington Beach, California

Jacobs

Attachment 3.9, Figure 2
Facility Layout
AES Huntington Beach Energy Project
Huntington Beach, California

Jacobs