

1300 Pacific Coast Highway Gas Station and Mini Market

Initial Study and
Negative Declaration

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Lead Agency

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City of Seal Beach

Environmental Analysis Checklist Explanations

Gas Station and Mini Market

A. Project Location and Surrounding Land Uses

The Project site for the proposed development is located at 1300 Pacific Coast Highway and 328 13th Street in the City of Seal Beach (City). The site is within Planning Area 1, the Old Town area of the City. The proposed Project site is surrounded by commercial establishments, restaurants, and residential uses. It is on the edge of the downtown area of the City.

Part of the subject project area is designated as Commercial-General per the City's General Plan and is zoned GC – General Commercial. An additional parcel in the proposed project at 328 13th Street is designated as residential high density in the General Plan and is zoned Residential High Density-20.

Exhibit 1 shows the regional location of the Project. Exhibit 2 shows the Project site and the Project vicinity.

B. Project Description

An existing gas station is located at 1300 Pacific Coast Highway in the City of Seal Beach at the intersection of Pacific Coast Highway and 13th Street. The project consists of the demolition of the existing gas station at 1300 Pacific Coast Highway, including five gas pumps, a kiosk, the existing canopy, and two subsidiary structures. The existing underground storage tanks will be removed and any soil contamination will be remediated under California Air Resources Board (CARB) and other state regulations requiring removal of single-wall underground storage tanks. The project includes construction of a new gas station on the property with three replacement gas pumps, new underground storage tanks, a new canopy over the fuel dispensing area, and a 1,200-square-foot convenience store on an adjacent parcel behind the existing gas station. The project would include an amendment to change the General Plan Land Use Designation of the adjacent parcel at 328 13th Street from residential to commercial to accommodate the new convenience store in connection with the proposed gas station.

C. Proposed Actions

The Project will require City approval of the new gas station and a General Plan and Zoning Code Amendment from residential to commercial of the parcel at 328 13th Street to allow the new convenience store. The proposed Project also requires compliance with environmental procedures (CEQA and CEQA Guidelines).

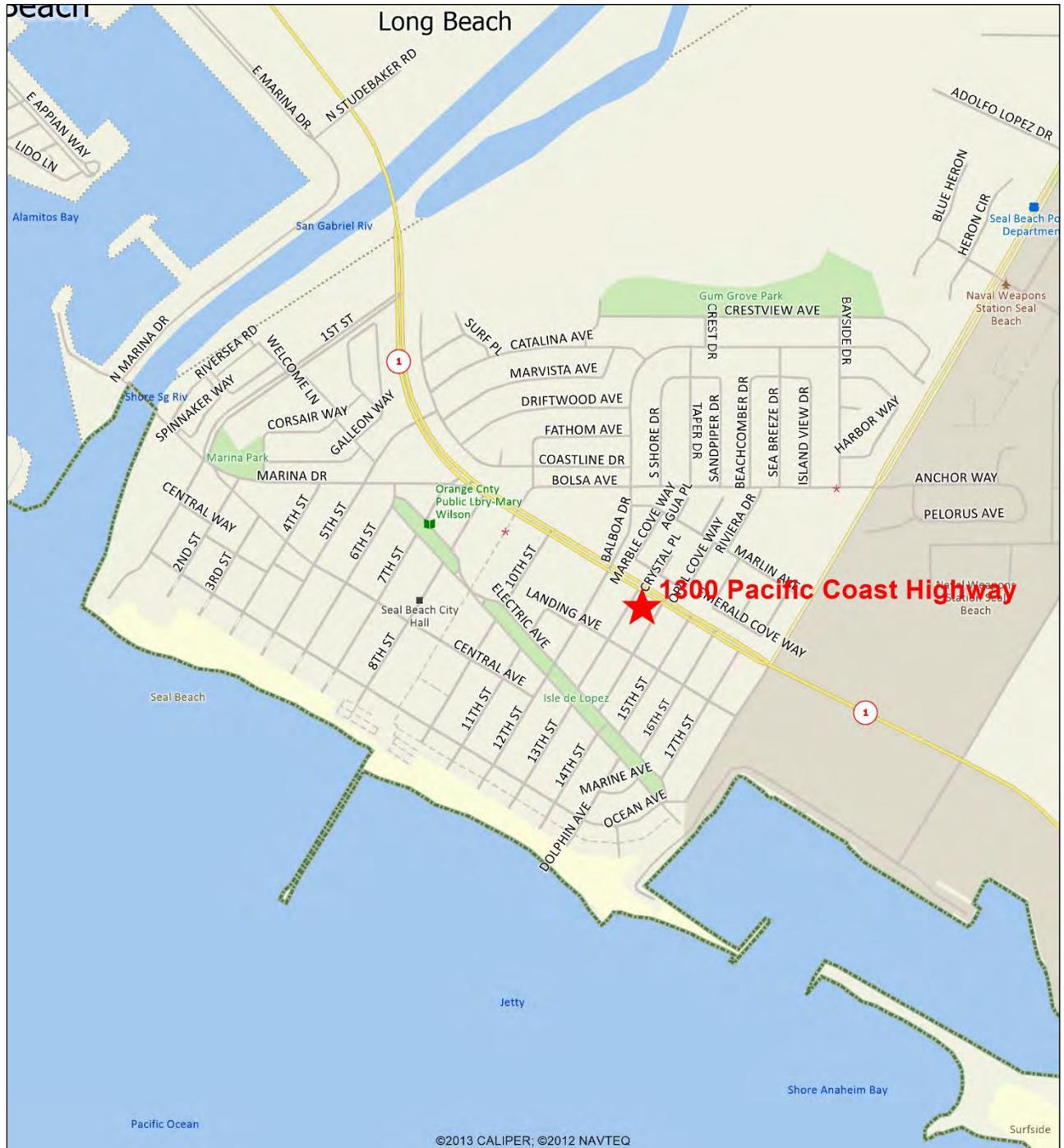


Exhibit 2 Project Vicinity

D. Statutory Authority

The preparation of the Initial Study and Negative Declaration is governed by two principal sets of documents: the California Environmental Quality Act (hereinafter CEQA, *California Public Resources Code* §21000, et seq.) and the CEQA Guidelines (*California Code of Regulations* §15000, et seq.). Additionally, City procedures and case law provide guidance to this Initial Study and Negative Declaration. The environmental analysis presented in this document primarily focuses on the changes in the environment that would result from the Project. This environmental document also evaluates all phases of the Project, including construction and operation.

In compliance with state law and procedures, the City has determined that the Negative Declaration is the appropriate environmental compliance for the proposed Project. Therefore, the City will not cause to be prepared an Environmental Impact Report (EIR). In compliance with §15063 of the CEQA Guidelines, the City conducted an Initial Study to determine if the Project may have a significant effect on the environment. The Initial Study checklist form and explanation discussion format meets the requirements of CEQA. Section 15063(d)(3) requires that the entries on the Initial Study checklist identifying environmental effects be briefly explained to indicate that there is some evidence to support the entries. An Initial Study may rely upon expert opinion supported by facts, technical studies, or other substantial evidence to document its findings. An Initial Study is not intended or required to include a level of detail that would be provided in an EIR. Therefore, in compliance with CEQA and the CEQA Guidelines, the IS/ND is not intended to be a lengthy, detailed document.

E. Incorporation by Reference

Certain documents are incorporated by reference into this Initial Study and Negative Declaration pursuant to CEQA Guidelines §15150. These documents and the locations where they can be inspected are identified in the Environmental Checklist (Appendix A of this Initial Study and Negative Declaration). Where a document is referenced, its pertinent sections will be briefly summarized in the discussions in this environmental document.

F. Analysis

The initial step in the City's environmental evaluation is the completion of an Environmental Checklist (also known as an "Initial Study") to identify known or potential impacts and eliminate environmentally irrelevant issues. After each issue listed on the checklist, the City has marked "Potentially Significant Impact," "Less Than Significant Impact with Mitigation Incorporated," "Less Than Significant Impact," or "No Impact" depending on the potential of the Project to have adverse impacts. The Environmental Checklist prepared for the proposed Project is presented in Appendix A of this environmental document.

The following discussion provides explanations for the conclusions contained in the Environmental Checklist regarding the proposed Project's environmental impacts.

1. Aesthetics

Would the Project:

a) Have a substantial adverse effect on a scenic vista? (No Impact)

The Project site is located in a commercial area that does not provide a scenic vista. Surrounding properties are developed with commercial and residential structures. The Project site is located in a developed area of the City near Old Town. The Project involves demolition of an existing gas station on a commercially zoned-site and construction of a new gas station and convenience store on an adjacent residentially zoned parcel that will be re-zoned from Residential to General Commercial. The proposed gas station will replace an existing facility on the project site. Therefore, the Project will not result in a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

See response to Item 1.a) above. The 1300 PCH Gas Station Project, including the residentially zoned parcel at 328 13th Street, will not have a significant impact on any scenic resources such as trees, rock outcroppings, or historic buildings. In fact, the Project will replace the existing gas station, including new pumping facilities and gasoline storage tanks. Additionally, PCH is not listed as a state scenic highway in this area, and the proposed Project would not alter any views in the area. Therefore, the Project will not result in any significant impacts for this topical area.

c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (No Impact)

It is not anticipated that the Project will substantially impact the visual character or quality of the site and its surroundings, because the new gas station is replacing an existing station on the site. The project will require a zone change on a small connected residentially zoned parcel to accommodate the new gas station and mini market. However, surrounding and nearby land uses to the Project site include commercial establishments and residences. Therefore, the proposed Project will not result in any significant impacts relative to visual character or quality of the site and its surroundings and does not conflict with any regulations governing scenic quality.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (No Impact)

The surrounding properties are already developed with existing commercial buildings, stores, and residential structures. Lighting associated with the Project will be identical to that featured during operation of the existing gas station. The lighting is not considered significant given the Project's urbanized location. Therefore, substantial light and/or glare impacts should not occur as a result of the Project, and there is no impact.

2. Agriculture and Forestry Resources

Would the Project:

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (No Impact)**

The proposed Gas Station and Convenience Market Project does not involve conversion of any farmland. The proposed Project does not call for rezoning of farmland, nor is it currently zoned for agriculture. The Project is located on Pacific Coast Highway in Planning Area 1, the Old Town area of Seal Beach. Therefore, the proposed Project will not have any impacts on agriculture and forestry resources.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract? (No Impact)**

See response to Item 2.a) above. The Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. The property is not under a Williamson Act contract. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? (No Impact)**

The Project does not involve land that is considered forest land or timberland zoned for timberland production. It is a project to replace an existing gas station near the downtown commercial district of Seal Beach. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

- d) **Result in the loss of forest land or conversion of forest land to non-forest use? (No Impact)**

The Project is located in an existing urban area and does not involve conversion of forest land to non-forest use. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

- e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (No Impact)**

The proposed Project will not have any impact on farmland or agricultural uses. The Project site is within a developed area surrounded by commercial and residential uses. Therefore, the Project will not have any impact that could result in the conversion of property to non-agricultural use.

3. Air Quality

Would the Project:

- a) **Conflict with or obstruct implementation of the applicable air quality plan? (Less Than Significant Impact)**

An Air Quality Impact Analysis for the Project was performed by Giroux & Associates (April 22, 2022) and is included in its entirety as Appendix B to this document. The Project site is located in the South Coast Air Basin (SCAB). The federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan

demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM₁₀. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times, because earlier attainment forecasts were shown to be overly optimistic.

Existing and probable future levels of air quality around the Project area can best be inferred from ambient air quality measurements conducted by the SCAQMD at the Anaheim monitoring station. This station measures both regional pollution levels such as smog, as well as primary vehicular pollution levels near busy roadways such as carbon monoxide and nitrogen oxides. Particulates (PM-10 and PM-2.5) are also monitored at the Anaheim station. Table 1 is a 4-year summary of monitoring data for the major air pollutants compiled from this air monitoring station. From this data the following conclusions regarding air quality trends can be drawn.

Table 1 Air Quality Monitoring Summary (2017-2020)

Pollutant/Standard	Number of Days Standards Were Exceeded, and Maximum Levels During Such Violations (Entries shown as ratios = samples exceeding standard/samples taken)			
	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	0	1	1	6
8-Hour > 0.07 ppm (S)	4	1	1	15
8- Hour > 0.075 ppm (F)	2	0	1	4
Max. 1-Hour Conc. (ppm)	0.090	0.112	0.096	0.142
Max. 8-Hour Conc. (ppm)	0.076	0.071	0.082	0.097
Carbon Monoxide				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	2.1	1.9	1.3	1.7
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.081	0.066	0.059	0.071
Inhalable Particulates (PM-10)				
24-hour > 50 µg/m ³ (S)	17/332	13/320	13/364	13/329
24-hour > 150 µg/m ³ (F)	0/332	0/320	0/364	0/329
Max. 24-Hour Conc. (µg/m ³)	128.	129.	127.	120.
Ultra-Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	6/305	3/353	3/346	1/355
Max. 24-Hour Conc. (µg/m ³)	53.9	54.1	36.1	41.4

Anaheim Air Quality Monitoring Station (3176)

S=State Standard; F=Federal Standard

Source: South Coast AQMD – Azusa Monitoring Station data: www.arb.ca.gov/adam/

Photochemical smog (ozone) levels occasionally exceed standards. All state and federal ozone standards have been exceeded on less than 1% of all days in the past 4 years. While ozone levels are still occasionally elevated, they are much lower than 10 to 20 years ago.

Respirable dust (PM-10) levels exceed the state standard on approximately 4% of measured days. The less stringent federal PM-10 standard has not been exceeded in the last 4 years.

The federal ultra-fine particulate (PM-2.5) standard of 35 µg/m³ has been exceeded on less than 1% of measurement days in the last 4 years.

More localized pollutants such as carbon monoxide and nitrogen oxides are very low near the site. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS. Data from a “near roadway” monitoring study directly along the I-5 shoulder (<50 feet) in Anaheim showed noticeably elevated levels of NO_x and CO, but even at this close distance federal clean air standards were not exceeded.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future. The SCAQMD has initiated development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and the Coachella Valley, which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NO_x emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NO_x emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100% EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing commercial development Projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed Project has therefore been analyzed on a Project-specific basis.

Standards of Significance

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

- a) Conflicts with or obstructs implementation of the applicable air quality plan.
- b) Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
- c) Exposes sensitive receptors to substantial pollutant concentrations.
- d) Creates objectionable odors affecting a substantial number of people.

Localized Significance Thresholds

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board’s

Environmental Justice Enhancement Initiative 1-4, and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD’s Mobile Source Committee in February 2005.

Use of an LST analysis for a Project is optional. For the proposed Project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, a hospital, or a convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25-, 50-, 100-, 200- and 500-meter source-receptor distances. The closest sensitive use is directly to the south; therefore, the most stringent thresholds for a 50-meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1-, 2- and 5-acre sites for varying distances. For this Project, the most stringent thresholds for a 1-acre site were applied.

The following thresholds and emissions in Table 2 are therefore determined (pounds per day):

Table 2 LST and Project Emissions

LSR 1 acre/25 meters N Coastal Orange County	CO	NOx	PM-10	PM-2.5
	(pounds per day)			
LST Thresholds	647	92	4	3
Max On-Site Emissions	8	12	3	2

CalEEMod Output in Appendix
Includes watering twice daily during the two days of grading

LSTs were compared to the maximum daily construction activities. As seen in Table 2, LST impacts are less-than-significant. The proposed Project involves the demolition and replacement of a gas station at 1300 Pacific Coast Highway in the City of Seal Beach. The Project will not conflict with or obstruct implementation of the South Coast Air Basin’s Air Quality Management Plan. Therefore, less than significant impacts will occur in this issue area.

The Project involves demolition and replacement of a gas station at 1300 PCH in the City of Seal Beach. Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

- a) Conflicts with or obstructs implementation of the applicable air quality plan.
- b) Violates any air quality standard or contributes substantially to an existing or projected air quality violation.

- c) Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- d) Exposes sensitive receptors to substantial pollutant concentrations.
- e) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthy form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during Project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthy contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of the significance of such emissions is based upon a specified amount of emissions (e.g., pounds, tons) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 3 Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November 1993 Rev.

Additional Indicators

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project’s build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

Construction Activity Impacts

CalEEMod was developed by the SCAQMD to provide a model by which to calculate construction emissions and operational emissions from a variety of land use projects. It calculates the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The Project is proposing to develop the site with a new gas station with six fueling positions and a small convenience store. The existing gas station components will be demolished. Construction was modeled in CalEEMod2020.4.0 using the construction equipment and schedule for a Project of this size as shown in Table 4.

Table 4 Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Demolition (10 days)	1 Concrete Saw 1 Dozer 2 Loader/Backhoes
Grading (2 days)	1 Grader 1 Dozer 1 Loader/Backhoe
Construction (100 days)	1 Crane 2 Loader/Backhoes 2 Forklifts
Paving (5 days)	1 Paver 4 Mixers 1 Loader/Backhoe 1 Roller

Utilizing the indicated equipment fleet and durations shown in Table 4 the worst-case daily construction emissions are calculated by CalEEMod and are listed in Table 5.

Table 5 Construction Activity Emissions

Maximal Construction Emissions	Maximum Daily Emissions (pounds/day)					
	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
2022*	1.1	12.0	7.8	0.0	3.0	1.7
2023	1.8	6.4	7.6	0.0	0.5	0.3
SCAQMD Thresholds	75	100	550	150	150	55

*watering twice daily during the 2 days of grading

Peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds without the need for added mitigation.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2 to 3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone.
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard.
- Sweep streets daily if visible soil material is carried out from the construction site.

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include the following.

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better rated heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

Current practices and air quality regulations dictate the following measures should be followed to minimize fugitive dust or vehicle emissions from construction equipment. During construction activities, the contractor shall ensure that measures are complied with to reduce short-term (construction) air quality impacts associated with the Project: a) apply soil stabilizers or moisten inactive disturbed areas (such as covering stock piles with tarps) to meet South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust); b) stabilize previously disturbed areas if subsequent construction is delayed; c) apply water two times daily, or non-toxic soil stabilizers according to manufacturer's specifications, to all disturbed unpaved surfaces; d) minimize in-out traffic from construction zone; e) cover all trucks hauling dirt, sand, or loose material or require all trucks to maintain at least two feet of freeboard; f) sweep streets daily if visible soil material is carried out from

the construction site; g) prepare a high wind dust control plan; h) cover all stock piles with tarps at the end of each day as needed; i) provide water spray during loading and unloading of earthen materials; j) utilize well-tuned off-road construction equipment; k) establish a preference for contractors using Tier 3 or better heavy equipment; and l) enforce 5-minute idling limits both on-road trucks and off-road equipment. As a result, impacts will be less than significant.

Operational Impacts

The Project would generate 1,032 daily trips using trip generation numbers provided in the Project traffic report. This number is less than the current 1,720 trips generated by the existing use. Nevertheless, the Project operational emissions impact was calculated as if all trips were new trips as a worst-case condition.

Operational emissions were calculated using CalEEMod2020.4.0 for an assumed full occupancy year of 2023. The operational impacts are shown in Table 6. As shown, operational emissions will not exceed applicable SCAQMD operational emissions CEQA thresholds of significance even without taking credit for existing on-site use.

Table 6 Proposed Uses Daily Operational Impacts (2023)

Source	Operational Emissions (lbs/day)					
	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Area	<0.1	<0.1	0.0	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	0.0	<0.1	<0.1	<0.1
Mobile	1.8	1.1	9.5	<0.1	1.3	0.4
Total	1.8	1.1	9.5	<0.1	1.3	0.4
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

As seen in Table 6, the Project would not cause any operational emissions to exceed their respective SCAQMD CEQA significance thresholds. Operational emission impacts are judged to be less than significant. No impact mitigation for operational activity emissions is considered necessary to support this finding.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Less Than Significant Impact)

See response to Item 3.a) above. The Project site is located in the South Coast Air Basin, which is a designated non-attainment area. The Project does not represent significant growth beyond that previously evaluated and forecasted for air quality cumulative impacts of basin-wide growth and development. Therefore, the Project will not result in any significant impacts cumulatively to air quality.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less Than Significant Impact)

See response to Item 3.a) above.

Gasoline Dispensing Emissions and Health Risk

The gasoline station is subject to and required to comply with SCAQMD Rules 461 (Gasoline Transfer and Dispensing) as well as a Permit to Construct and Permit to Operate, Rules 201 and 203, respectively.¹ These required permits identify a maximum annual throughput allowed based on specific fuel storage and dispensing equipment that is proposed by the operator.

Rule 461 – Gasoline Transfer and Dispensing requires annual throughput reporting requirements. It is designed to regulate gasoline vapor emissions from gasoline transfer and dispensing processes. The rule was initially adopted in 1976 and has been amended several times.

Vapor recovery systems are required at gas stations to collect gasoline vapors that would otherwise escape into the atmosphere. All retail service stations under the SCAQMD jurisdiction have Phase I and II vapor recovery systems to control gasoline emissions. Phase I vapor recovery refers to the collection of gasoline vapors displaced from storage tanks when cargo tank trucks make gasoline deliveries. Phase II vapor recovery systems control the vapors displaced from the vehicle fuel tanks during refueling. All gasoline is stored underground with valves installed on the tank vent pipes to further control gasoline emissions.

ROG is associated with fueling activity and is one of the major ingredients that contributes to ground-level ozone (smog) formation. The proposed fuel dispensing operation is considered a stationary source emitter and is regulated in order to control the emissions of ROG.

The EPA has published a calculator to determine the ROG content for Gasoline Dispensing Facilities.² Based on the project having 6 fueling positions and 3 fuel dispensers, the emissions potential is 1.041 tons per year for ROG.

The project would minimize the release of gasoline vapors via compliance with SCAQMD Rule 461, Gasoline Transfer and Dispensing, by installing a Phase II vapor recovery system for gasoline pumps and a Phase I vapor recovery system for the gasoline underground storage tanks. Although South Coast AQMD Rule 461 will reduce ROG emissions they are not eliminated from the fueling process.

Gasoline vapors also have the potential to produce Toxic Air Contaminants (TACs). TACs are defined by CARB as pollutants that “may cause or contribute to an increase in deaths or serious illness, or which may pose a present or potential hazard to human health.” TACs include benzene, hexane, MTBE, toluene, and xylene. However, only three (benzene, ethylbenzene, and naphthalene) result in cancer effects and are analyzed for cancer risk. Although gasoline vapors have non-cancer impacts, the risks from retail gasoline dispensing facilities are dominated by cancer risk.

The SCAQMD has published a Risk Assessment Procedures document for Rules 1401, 1401.1 & 212,³ which provides screening-level risk estimates for gasoline dispensing operations. These thresholds are utilized in order to identify potentially significant health risk impacts that may result from exposure to

1 <http://www.aqmd.gov/home/rules-compliance/compliance/gasoline-dispensing2>

2 https://www.google.com/search?ei=R68OXfKyI8HAsQW_15ewBQ&q=voc+percentage+gasoline+dispensing+storage&oq=voc+percentage+gasoline+dispensing+storage&gs_l=psy-ab.3...3154.9514..9936...2.0..0.128.2351.1j20.....0....1..gws-wiz.....0i71j33i22i29i30j33i299j33i160.DNXhdXyHYdk

3 http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf

sensitive populations. This screening-level risk estimate is very conservative (i.e., it would overstate rather than understate potential impacts).

The cancer risk look-up screening tables, located in Appendix N,⁴ are available for various meteorological receptor areas located within the SCAQMD jurisdiction. The screening tables are also dependent on annual throughput and distance to a sensitive receptor. For this project, the applicant estimates a throughput of approximately 110 million gallons per month. The most stringent 25-foot source receptor distance was modeled for the closest residential use. Additionally, cancer risk at the J.H. McGaugh Elementary School which is approximately 500 meters from the site was evaluated.

Based on the look up tables it is anticipated the closest residential receptor in the project vicinity will be exposed to a cancer risk of 3.6 in 1 million for below ground tanks. This risk is much less than the applicable threshold of 10 in 1 million.

Rule 1401.1 requires the facility-wide cancer risk to be less than 1 in 1 million at any school or school under construction within 500 feet of the facility. The cancer rate at the elementary school would be 0.03 in 1 million. These risks are much less than the applicable threshold of 1 in 1 million. Therefore, no mitigation is required.

Underground storage tanks have a limited lifetime though the rate of corrosion and tank failure is completely dependent on tank type, installation, and site circumstances. Replacing the existing older storage tanks with newer and safer tanks can only provide a benefit in terms of possible leaks or gas vapors. The existing single-wall storage tanks are being removed under CARB regulations and an upcoming December 31, 2025 deadline.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less Than Significant Impact)

See response to item 3.c) above. The proposed demolition and reconstruction of the gas station will not create any significant objectionable odors. Therefore, the proposed Project will not result in any significant impacts of objectionable odors affecting a substantial number of people.

4. Biological Resources

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (No Impact)

The City's General Plan Open Space/Recreation/Conservation Element describes "open space land" as "any parcel or area of land or water that is essentially unimproved or contains only minor improvements and is devoted to an open space use."⁵ The Project site is the existing gas station at 1300 Pacific Coast Highway and the residentially zoned parcel at 328 13th Street in a completely developed area included in the Old Town area of Seal Beach. The Project site has been previously graded in conjunction with the existing gas station on the property. The Project site does not contain

⁴ <http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf?sfvrsn=4>

⁵ City of Seal Beach Open Space/Recreation/Conservation Element Page OS-1

any sensitive habitat or wildlife resources, nor is it in an open space area. The site is in the downtown commercial district of the City of Seal Beach. Therefore, the Project will not result in any significant impacts to biological resources.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (No Impact)

See response to Item 4.a) above. Sensitive natural communities called out by the City of Seal Beach General Plan are primarily located in open space and undeveloped areas of the community. There are no riparian habitats associated with the gas station site. The Project site does not contain any riparian habitat or sensitive natural communities. Therefore, no impacts to riparian or other sensitive natural communities are anticipated.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (No Impact)

See response to Item 4.a) above. The site is located in an urbanized area of the downtown and does not contain wetlands. The Project does not propose any interruption of hydrological flow or increase in hard surface that would increase flows toward the ocean. The Project involves the replacement of an existing gas station. Therefore, no impacts to riparian habitats or wetlands will result from the proposed Project.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (No Impact)

See response to Item 4.a) above. The site is located in the commercial downtown area of the City of Seal Beach. The site does not contain any sensitive habitat or wildlife resources. There are no migratory wildlife corridors on the Project site and the Project itself will not interfere with any native resident or migratory fish or wildlife species. Therefore, there will be no impacts on any wildlife species in the Project area.

e) Conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance? (No Impact)

See response to Item 4.a) above. The Project site does not contain any biological resources. The Project is replacement of the existing gas station in the City's Old Town Plan area. It is surrounded by restaurants, commercial establishments, and residences. There are no biological resources on the site. Therefore, the Project will not conflict with any policies or ordinance pertaining to biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

See responses to Items 4.a) and 4.e) above. The site is located in an urbanized area. The site does not include a Habitat Conservation Plan or a Natural Community Conservation Plan. The proposed replacement of the existing gas station does not involve any activities that would impact biological resources that would be subject to a conservation plan.

5. Cultural Resources

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (No Impact)

The City's General Plan/Historical Resources Element includes a comprehensive evaluation of historical resources citywide.⁶ The Project proposes the demolition and replacement of an existing gas station at 1300 Pacific Coast Highway and construction of a mini market on the parcel at 328 13th Street near the Old Town area of the City.

Identified archeological resources within the City of Seal Beach are primarily located on the Naval Weapons Station, the Hellman Ranch property, and potentially on the Boeing property. This Project is located in the Old Town planning area of the City of Seal Beach. The Project site is an operating gas station. The City's Cultural Resources Element does not mention any recorded archeological sites in the Project area. Therefore, due to the nature of the Project, it is anticipated that the Project will not have any impacts on cultural (including historical) resources.

b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5? (No Impact)

See response to Item 5.a) above. The Project is proposed to replace an existing gas station on PCH. The proposed Project will require no grading due to the nature of the Project. Therefore, it is not anticipated that the Project will result in any significant impact to archaeological resources.

See response to Item 5.a) above. The General Plan Cultural Resources Element did not call out the Old Town planning area as a place with significant cultural resources. It is not anticipated that the Project will result in any direct or indirect impacts to unique paleontological resources or geologic features due to the type of Project and existing developed condition of the property.

c) Disturb any human remains, including those interred outside of dedicated cemeteries? (No Impact)

See responses to Items 5.a) and 5.b) above. The site is located in an urbanized area with adjacent developed uses (restaurants, commercial establishments, and residences). Due to the developed condition of the site, it is not anticipated that the Project would result in any impacts relative to disturbance of human remains, including those interred outside formal cemeteries.

6. Energy

Would the Project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (No Impact)

The proposed Project will be built according to contemporary building and natural resources conservation regulations and will operate more efficiently than the existing gas station on the

6 City of Seal Beach General Plan/Cultural Resources Element, as amended 12/03, page CR-2.

property. Therefore, the Project will not result in wasteful, inefficient, or unnecessary consumption of energy resources during project operation or construction. Therefore, there will be no impacts.

**b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?
(No Impact)**

The Project does not conflict with or obstruct state or local plans for renewable energy or energy efficiency. In fact, the new gas station will provide a dedicated pump island for bio-fuels as an alternative to standard gasoline. Therefore, there will be no impacts in this area.

7. Geology and Soils

Would the Project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Less Than Significant Impact)**

The City's General Plan/Safety Element includes an evaluation of public safety that addresses geology and soils of the City and is herein incorporated by reference.⁷

The City, as well as most of Southern California, is located in a region of historic seismic activity. There have been many earthquakes throughout recorded history; some have been large. The 1933 Long Beach earthquake was the most powerful and closest shock to hit Seal Beach in living memory, and the 1994 Northridge quake was the most recent powerful shock. In October 1969, a quake occurred that was felt predominantly in Seal Beach and Northwest Orange County. By way of comparison, the three quakes listed above had the following magnitudes: 1933 Long Beach, 6.3; 1994 Northridge, 6.8; 1969 Seal Beach, 4.3. The active faults of Southern California will continue to be subjected to stresses that produce movement that in turn cause earthquakes of varying magnitude and intensity.

A known active fault system is located within the limits of the City. The Seal Beach Fault, a segment of the Newport-Inglewood Fault Zone, is located within the City and generally parallels the coastline, extending from Long Beach generally through the Hellman Ranch property and the Seal Beach Naval Weapons Station. This fault has been delineated on the Alquist-Priolo Earthquake Fault Zone. The principal seismic hazard that could affect the Project site is ground shaking resulting from an earthquake occurring along any of the major active faults in Southern California. The most significant known active faults include the Newport-Inglewood, Whittier, and Palos Verdes faults. The closest known active fault to the Project site includes the Newport Inglewood (L.A. Basin) fault, which is approximately 1.5 miles from the Pacific Coast Highway Project site. Surface rupture occurs when the ground surface breaks during or as a consequence of seismic activity. As indicated previously, the site is located near an Alquist-Priolo zone, but there are no identified faults within the Project site property. Therefore, potential for surface rupture on site is considered low due to the lack of known active faults specifically on-site.

⁷ City of Seal Beach General Plan/Safety Element, adopted 12/03, pages S-30 to S-56.

The potential for damage resulting from seismic-related events exists within the City, as it does throughout Southern California. Seismic hazards include ground shaking, ground failure, ground displacement, tsunamis, and seiches. The site is not located in an area of the City that is designated as having liquefaction potential per the State of California Seismic Hazard Zones Map, Seal Beach Quadrangle (1998).

The site is expected to be subject to moderate to severe ground shaking from a regional seismic event within the projected life of the proposed gas station. However, a gas station already exists on the site and the replacement gas station will not increase the site's susceptibility to geological issues. With the implementation of modern building codes designed to secure structures during seismic events, impacts in this area will be less than significant.

The topography of the site is relatively flat. The site is not located in an area of generally unique geologic or physical features.

ii. Strong seismic ground shaking? (Less Than Significant Impact)

See response to Item 7.a)i) above. Due to the nature of the Project, all potential impacts relative to geology and soils are less than significant.

iii. Seismic-related ground failure, including liquefaction? (Less Than Significant Impact)

See response to Item 7.a)i) above. The site is not located in an area of the City that is designated as liquefaction hazard zone per the state's Seismic Hazard Zones Map. Therefore, all potential impacts relative to geology and soils are at a less than significant level.

iv. Landslides? (No Impact)

The property is flat. The site is not subject to potential impacts associated with landslides. Therefore, it is not anticipated that Project activities will result in any impacts associated with landslides.

b) Result in substantial soil erosion or the loss of topsoil? (No Impact)

The Project will not result in any impacts to soil erosion or loss of topsoil. The site has been previously graded in conjunction with the existing use. The site is relatively flat in topography and will not require grading. Therefore, there are no impacts from the Project in the area of potential loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (No Impact)

See response to Item 7.a)i) above. Due to the nature of the Project, all potential impacts relative to geology and soils are at a less than significant level.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (Less Than Significant Impact)

See response to Item 7.a)i), which addresses geology and soils. The site includes the existing gas station at 1300 Pacific Coast Highway in the City of Seal Beach. The Project, replacement of the existing gas station and convenience market in Seal Beach will involve no grading and all potential impacts relative to geology and soils will be at a less than significant level.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (No Impact)

The Project site will be served by the local sewer and water system; as such, the Project does not involve issues pertaining to soils incapable of supporting septic tanks or alternative wastewater disposal systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (No Impact)

The Project will not indirectly destroy a unique paleontological resource or site or unique geologic feature. The Project involves demolition of an existing gas station and replacement with a new gas station with fewer pumps. There are no unique geologic features on the site.

8. Greenhouse Gas Emissions

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less Than Significant Impact)

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately one-half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, SB 375, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.

- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is underway. Additionally, through the California Climate Registry, general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the *California Code of Regulations* in March 2010. The CEQA Appendix G Guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or
- Conflicts with an applicable plan, policy, or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero-net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008, the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans) of 10,000 metric tons (MT) CO₂ equivalent/year. In September 2010, the Working Group released revisions which recommended a threshold of 3,000 MT CO₂e for all land use types. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, Project-related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

Construction Activity GHG Emissions

CalEEMod assumes the Project to require less than one year for construction but could occur over two calendar years. During Project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table 7.

Table 7 Construction Emissions

	CO ₂ e (metric tons)
Year 2022	56.0
Year 2023	4.9
Total	60.9
Amortized	2.0

CalEEMod output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations, and the GHG conversion from consumption to annual regional CO₂e emissions are summarized in the CalEEMod2020.4.0 output files found in the appendix of this report.

The total operational and annualized construction emissions for the proposed Project are identified in Table 8. The Project GHG emissions are considered less-than-significant. This conclusion is reached by counting all trips as “new” rather than taking any credit for the current use which generates more trips than proposed. In this respect, the Project is air quality positive.

Table 8 Operational Emissions

Consumption Source	Metric Tons
Area Sources	0.0
Energy Utilization	1.8
Mobile Source	232.7
Solid Waste Generation	0.0
Water Consumption	0.3
Construction	2.0
Total	236.8
Guideline Threshold	3,000

Worst-case total Project GHG emissions are substantially below the proposed significance threshold of 3,000 MT suggested by the SCAQMD. Hence, the Project will not result in generation of a significant level of greenhouse gases.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less Than Significant Impact)

The City of Seal Beach has not yet developed a Greenhouse Gas Reduction Plan. The applicable GHG planning document is AB-32. As discussed above, the Project is not expected to result in a significant

increase in GHG emissions. As a result, the Project results in GHG emissions below the recommended SCAQMD 3,000-ton threshold. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

9. Hazards and Hazardous Materials

Would the Project:

a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials? (Less Than Significant Impact)

The proposed Project is the replacement of the gas station at 1300 Pacific Coast Highway and construction of a mini market on the parcel at 328 13th Street in the City of Seal Beach. As a gas station, the Project will involve the routine transport, use, or disposal of hazardous materials that could create a significant hazard to the public or the environment. However, the delivery and dispensing of gasoline is highly regulated by federal and state laws that significantly reduce any hazards to the public and the environment. Therefore, there is less than significant impact to this issue area.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less Than Significant Impact)

See response to 9.a) above. The Project itself will not be a generator of hazardous materials. The Project does include demolition of structures on the site that could contain lead or other hazardous material associated with older development. A protocol is proposed to cover any potential release of hazardous materials through the demolition of these structures. Prior to demolition of the existing gas station structure on the Project site, the contractor shall survey the structures to determine the presence of any hazardous substances such as asbestos or lead-based paint. If such materials are present, they will be remediated using mandatory procedures specified by the SCAQMD (Rule 4102, Asbestos Emissions from Demolition/Renovation Activities) and state air toxics agencies. No significant hazardous materials would be stored or handled on-site associated with the operational characteristics of the Project once it is developed.

No significant hazardous materials would be stored or handled on-site associated with the operational characteristics of the Project once it is developed. Therefore, there are no impacts associated with this topical area as a result of implementation of the proposed Project.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Less Than Significant Impact)

There is an existing school within one-quarter mile of the Project site. There are sensitive receptors (residences) in proximity to the Project site that necessitate mitigation measures. The construction of the Project will include short-term use of construction equipment that will emit emissions, and the use of construction material, such as paint, including hazardous materials. Additionally, in relation to construction activities, the proper use and maintenance of equipment, along with the use of general common sense, greatly reduces the potential for contamination. A plan is presented following that addresses hazardous materials related to short-term construction activities. During Project construction the applicant shall ensure that grading and building plans include the following measures and that the measures shall be followed by the construction contractor and crew: a) the storage of

hazardous materials, chemicals, fuels, and oils and fueling of construction equipment shall be a minimum of 45 meters (150 feet) from any drainage, water supply, or other water features; b) hazardous materials stored on-site shall be stored in a neat, orderly manner in appropriate containers and, if possible, under a roof or other enclosure; c) whenever possible, all of a product shall be used up before disposal of its container; d) if surplus product must be disposed of, the manufacturer's or the local and state recommended methods for disposal shall be followed; e) spills shall be contained and cleaned up immediately after discovery. Manufacturer's methods for spill cleanup of a material shall be followed as described on the Material Safety Data Sheets (MSDS) for each product.

With implementation of these mitigation measures, the impacts in this subject area are reduced to a less than significant level.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Less Than Significant Impact)

See response to 9.a) above. The Project is undergoing remediation for contamination by an underground storage tank on the property.⁸ As part of the Project the existing storage tanks will be removed and replaced by new tanks. The remediation will be completed. There are other sites located near the Project site at 1000 and 1590 Pacific Coast Highway that have been remediated of leaking underground storage tanks (LUST). A dry cleaning facility at 1100 Pacific Coast Highway is also undergoing remediation. Therefore, there are less than significant impacts from existing hazardous materials sites.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (No Impact)

The Project site is located within the Airport Environs Land Use Plan height restriction area for the Los Alamitos Joint Forces Training Base. However, the Project will be well under the aviation height restriction in the area. Therefore, the Project is not anticipated to have any impacts associated with a public airport or the safety of people working within the airport environs.

Additionally, the Project would not result in a safety hazard for people residing in the Project area. Therefore, there are no impacts to this topical area from the Project.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

The Project will not result in any impacts to an adopted emergency response plan or emergency evacuation plan.

⁸ <https://geotracker.swrcb.ca.gov>

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (No Impact)

The Project is located in a developed area and is not adjacent to wildland areas. Therefore, the Project itself (or location) will not be a significant risk involving wildland fires.

10. Hydrology and Water Quality

Would the Project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (No Impact)

The City of Seal Beach (and the Project site) is located in the Santa Ana River Basin. The Project area is under the jurisdiction of the California Regional Water Quality Control Board (RWQCB) Santa Ana Region for issues related to water quality. The Santa Ana Region of the RWQCB is nearly 3,000 square miles in size, with a population of almost five million people. The Santa Ana Region includes cities and municipalities in a portion of Orange County (includes Seal Beach), and Riverside and San Bernardino counties. Each of the nine Regional Boards within California is required to adopt a Water Quality Control Plan, or Basin Plan. Each Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: 1) designates beneficial uses for surface and ground waters; 2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; 3) describes implementation programs to meet the objectives and protect the beneficial uses of all waters in the region; and 4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

There is a Drainage Area Management Plan (DAMP) which is implemented by the cities (including Seal Beach), the County of Orange, and the Orange County Flood Control District. The DAMP was prepared in compliance with specific requirements of the National Pollutant Discharge Elimination System (NPDES) storm water program. The DAMP includes a wide range of Best Management Practices (BMPs) and control techniques to further reduce the amount of pollutants entering the storm drain system.

There are two primary types of source pollution: single-point source and nonpoint Source pollution. Single-point sources are water pollutants that originate from a single-point source such as factories. Potential impacts to water quality associated with this type of Project (commercial facilities) are nonpoint source pollution. Nonpoint source pollution includes materials and/or chemicals (e.g., motor oils/grease, paint, pet wastes, garden chemicals, litter) that may be washed into the storm drain system from various sources. Nonpoint source pollutants are typically washed into the storm drain system by rainwater and other means from streets, parking areas, residential neighborhoods, commercial/retail centers, construction sites. Since storm drains flow directly into the ocean without treatment, potential pollution can have an impact on water quality and wildlife. The Project site is currently developed as a gas station at 1300 Pacific Coast Highway. The proposed Project involves demolition of the existing gas station, removing the existing gasoline storage tanks on the site, and construction new gas pump islands and a mini market on the residentially zoned site. The proposed construction activities will be focused on the project site and should not affect urban water runoff more than the existing uses. The gas station site uses the municipal storm drain system of the City of Seal Beach.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (No Impact)

See response to Item 10.a) above. The Project focuses on the demolition of the existing gas station and the construction of a new gas station and mini market on the site at 1300 Pacific Coast Highway in Seal Beach. The new gas station will continue to be served by the existing local sewer and water system.

The Project implementation at this site does not involve any construction activities (or long-term Project operations) that would impact groundwater supplies or groundwater recharge. The proposed improvements at the site are also not anticipated to have any significant impacts relative to groundwater. Therefore, it is not anticipated that the Project will have any significant impact on groundwater. The Project will not impact groundwater supplies or interfere with groundwater recharge.

c) Substantially alter existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site? (No Impact)

See response to Item 10.a) above. The Project will not result in a significant change to the drainage pattern of property. The development of the site will not alter the course of a stream or a river. The Project area will continue to drain as it does today. Therefore, it is not anticipated that the Project will result in any impacts to erosion or siltation on-site or off-site.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site? (No Impact)

See response to Item 10.a) above. The Project does not involve any alteration of the existing and/or planned drainage system (pattern) of the area, including a substantial increase in the rate or amount of surface runoff. The Project property has been a gas station for many years. The proposed Project will minimally increase building coverage on the site and is not anticipated to create runoff beyond that which is handled by the existing storm drain system. Therefore, the runoff is not anticipated to significantly increase and there would be no impacts from this Project.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (No Impact)

See responses to Items 10.a) and 10.b) above. The City of Seal Beach is primarily built-out and contains an existing storm water drainage system. Local drainage facilities are maintained by the City of Seal Beach and provide for the collection of surface storm water. Surface water is then deposited into regional drainage channels that are owned and maintained by the Orange County Flood Control District (OCFCD). The OCFCD plans its drainage facilities to accommodate a 100-year flood. The closest major channel, less than 1 mile away from the site, is the Seal Beach Storm Drain Channel (OCFCD channel). The City's General Plan identified that the City's storm drain system is primarily built to 25-year storm event standards.

The Project is consistent with the capacity of the existing storm drain system in the City of Seal Beach and will not change the current run-off volume from the Project site. The Project is consistent with the land use designation on the existing gas station property and will not lead to more runoff than

anticipated in the Seal Beach General Plan. The mini market site will require a zone change from residential to commercial. However, the new building is not expected to increase runoff beyond that which already occurs from the property. Therefore, there will be no impacts associated with runoff as a result of the proposed Project.

iv. Impede or redirect flood flows? (No Impact)

The project will not impede or redirect flood flows. It replaces an existing gas station on the site. The structure will not change the existing storm drain system in the City of Seal Beach. Therefore, there is no impact.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (Less Than Significant)

The Project site is located within Zone X per the Federal Emergency Management Agency (FEMA) and on the Federal Flood Insurance Rate Map Panel No. 06059C-0226K (2021). The site is located outside the 100-year flood plain. Therefore, no impacts relative to the 100-year flood hazard will occur as a result of the proposed Project.

See responses to Items 10.a) and 10.c) above. The Project site is located above the beach area that would be the most vulnerable to a potential tsunami from seismic activity. The Seal Beach General Plan Safety Element rates the chance of tsunamis occurring in the Project area to be low based upon existing data, but notes that an earthquake along the Newport-Inglewood fault would carry a higher tsunami potential in the area.⁹ Therefore, impacts associated with inundation by seiche, tsunami, or mudflow are less than significant with the proposed Project.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (No Impact)

The project does not conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan. The new gas station and convenience store will be built in compliance with all regulations governing water quality and protecting groundwater from contamination. The project removes aging gasoline storage tanks and gasoline dispensing equipment and replaces them with modern facilities. Therefore, there is no impact in this area.

11. Land Use and Planning

Would the Project:

a) Physically divide an established community? (No Impact)

The Project site is at 1300 Pacific Coast Highway and 328 13th Street in the City of Seal Beach. The Project does not divide an established community. The Project proposes demolition of the existing gas station on the Project site and an existing residence. The Project site is located in an existing commercial district of the City and does not divide the community in any way. Therefore, no impacts relative to this topic will result due to the implementation of the Project.

⁹ City of Seal Beach General Plan Safety Element Page S-54

b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (Less Than Significant Impact)

The proposed Project will require a General Plan Amendment to change the land use designation from Residential to General Commercial on the parcel at 328 13th Street that will be the site of the mini market. A zone change will be required to change the zoning from residential high density-20 to General Commercial. The gas station portion of the project is consistent with the General Plan Land Use Designation "Commercial-General" on the property. The Project is located near the downtown area of the City's Old Town, and the proposed Project is consistent with the surrounding commercial and residential uses.

The Project is located within the Coastal Zone. Once the zoning and land use designation are modified, the impacts will be less than significant.

12. Mineral Resources

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state? (No Impact)

The Project site is not located within a known and/or designated mineral resources area. The Project would not change but replace the existing use on the site with updated facilities. Therefore, no significant decrease of natural resources is anticipated as a result of the Project.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? (No Impact)

See response to Item 12.a) above. The City's General Plan does not delineate any locally important mineral resources other than oil in the City. These oil resources are not located within the area of the proposed Project. Therefore, the proposed Project will not result in any significant impacts to a locally important mineral resource.

13. Noise

Noise Setting

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally considered to be unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The decibel (dB) scale is used to quantify sound pressure levels. Although decibels are most commonly associated with sound, "dB" is a generic descriptor that is equal to ten times the logarithmic ratio of any physical parameter versus some reference quantity. For sound, the reference level is the faintest sound detectable by a young person with good auditory acuity.

Because the human ear is not equally sensitive to all sound frequencies within the entire auditory spectrum, human response is factored into sound descriptions by weighting sounds within the range of maximum human sensitivity more heavily in a process called "A-weighting," written as dB(A). Any further reference in this discussion to decibels written as "dB" should be understood to be A-weighted.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called LEQ), or alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Ldn (day-night) or the Community Noise Equivalent Level (CNEL). The CNEL metric has gradually replaced the Ldn factor, but the two descriptors are essentially identical.

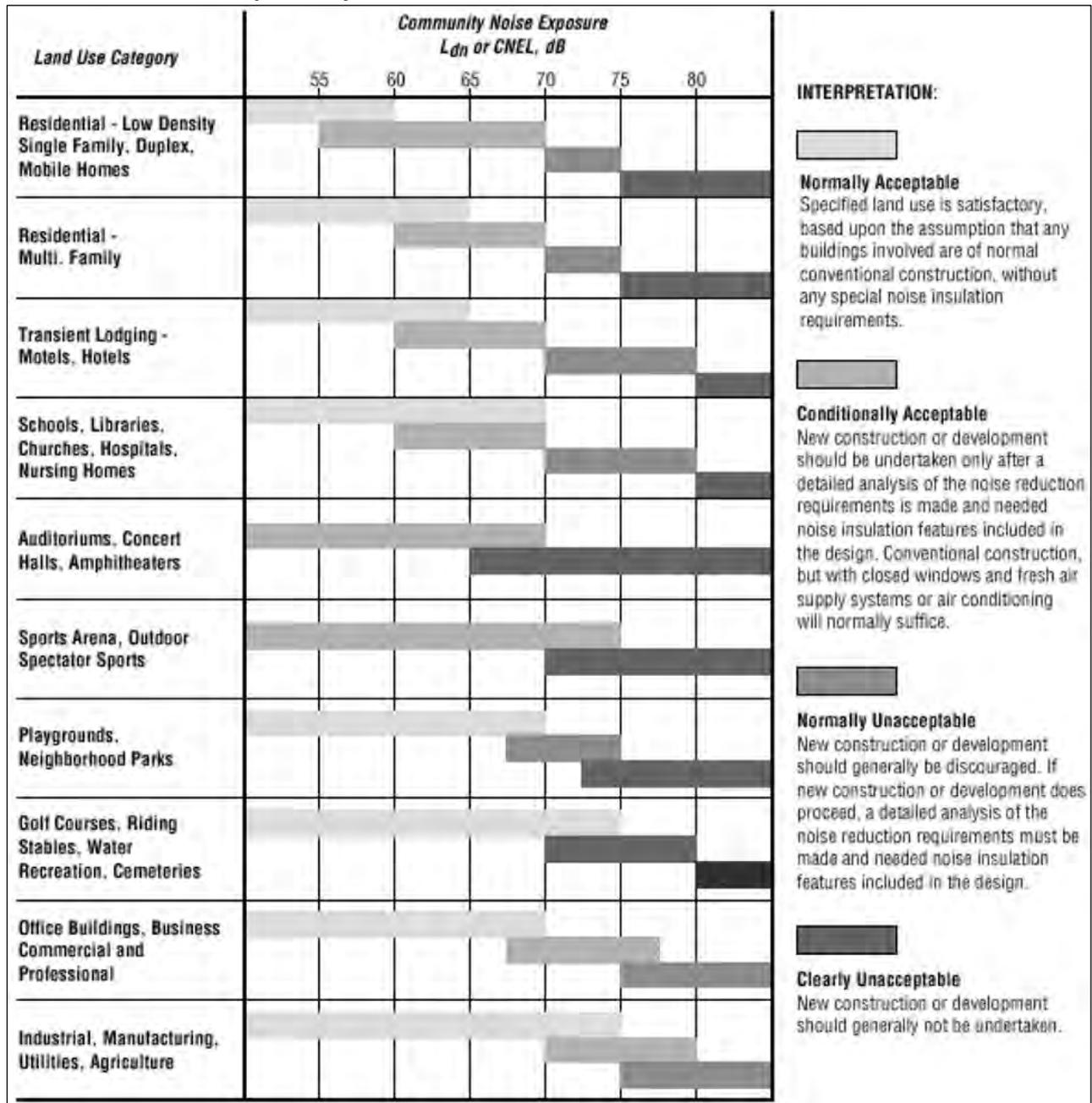
The City of Seal Beach has established guidelines for acceptable community noise levels that are based upon the CNEL rating scale to ensure that noise exposure is considered in any development. CNEL-based standards apply to noise sources whose noise generation is preempted from local control (such as from on-road vehicles, trains, and airplanes) and are used to make land use decisions as to the suitability of a given site for its intended use. These CNEL-based standards are articulated in the Noise Element of the city's General Plan.

Exhibit 4 shows the noise compatibility guidelines for various land uses. These guidelines would apply in usable outdoor space such as patios, yards, and spas. The guidelines indicate that an exterior noise level of 65 dB CNEL is considered to be a "normally acceptable" noise level for multi-family homes. Exterior noise levels up to 70 dB CNEL are typically considered "conditionally acceptable," and residential construction should only occur after a detailed analysis of the noise reduction requirements is made and needed noise attenuation features are included in the Project design. Exterior noise attenuation features include, but are not limited to, setbacks to place structures outside the conditionally acceptable noise contour, orienting structures so no windows open to the noise source, and/or installing noise barriers such as berms or solid walls.

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) for multiple family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, included single-family dwelling units. Because normal noise attenuation within residential structures with closed windows is 25-30 dB, an exterior noise exposure of 65-75 dB CNEL allows the interior standard to be met without any specialized structural attenuation (e.g., dual paned windows), but with closed windows and fresh air supply systems such as air conditioning to maintain a comfortable living environment.

According to section 7.15.025 in the municipal code, the City of Seal Beach limits construction activities to between the hours of 7:00 a.m. and 8:00 p.m., Monday through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday, and between 9:00 a.m. and 8:00 p.m. on Sundays or city-observed federal holidays. Construction activities that occur during allowable hours are exempt from compliance with numerical noise standards.

Exhibit 4 Noise Compatibility Guidelines



General Plan Guidelines, 2017; California Governor's Office of Planning and Research; Appendix D, Figure 2, page 374

Seal Beach Noise Ordinance Standards

Planning standards generally apply to land use decisions made in response to noise sources pre-empted from local control such as motor vehicles and aircraft. Noises from “stationary” sources are amenable to regulation through the Municipal Code. Chapter 7.15 of the City’s code governs noise from one property crossing the property line of an adjacent property. The commercial noise standard is 65 dBA day or night. The residential noise standard is 55 dBA by day and 50 dBA at night. Noise standards are not to be exceeded more than 30 minutes in any hour. Deviations from the baseline are allowed for noise “spikes” for progressively shorter periods for more substantial deviations up to a maximum of 20 dBA.

In areas where residential uses abut commercial or recreational activities, noise impacts may be perceived as intrusive, especially during noise sensitive quiet hours. There are commercial/residential interfaces at the project-site. Because of the small lot sizes in much of Seal Beach, mechanical equipment on one parcel may be located very close to the property line of an adjacent residentially zoned parcel. Motor hum and on/off cycling noise can be judged as intrusive. In recognition of this occasional conflict, a separate section of the Municipal Code directly addresses “Heating, Venting and Air Conditioning Equipment” (7.15.035). Modern equipment is typically quieter and less prone to causing problems. Compliance with the standards in this section of the code is nevertheless an important consideration in preventing possible noise nuisance.

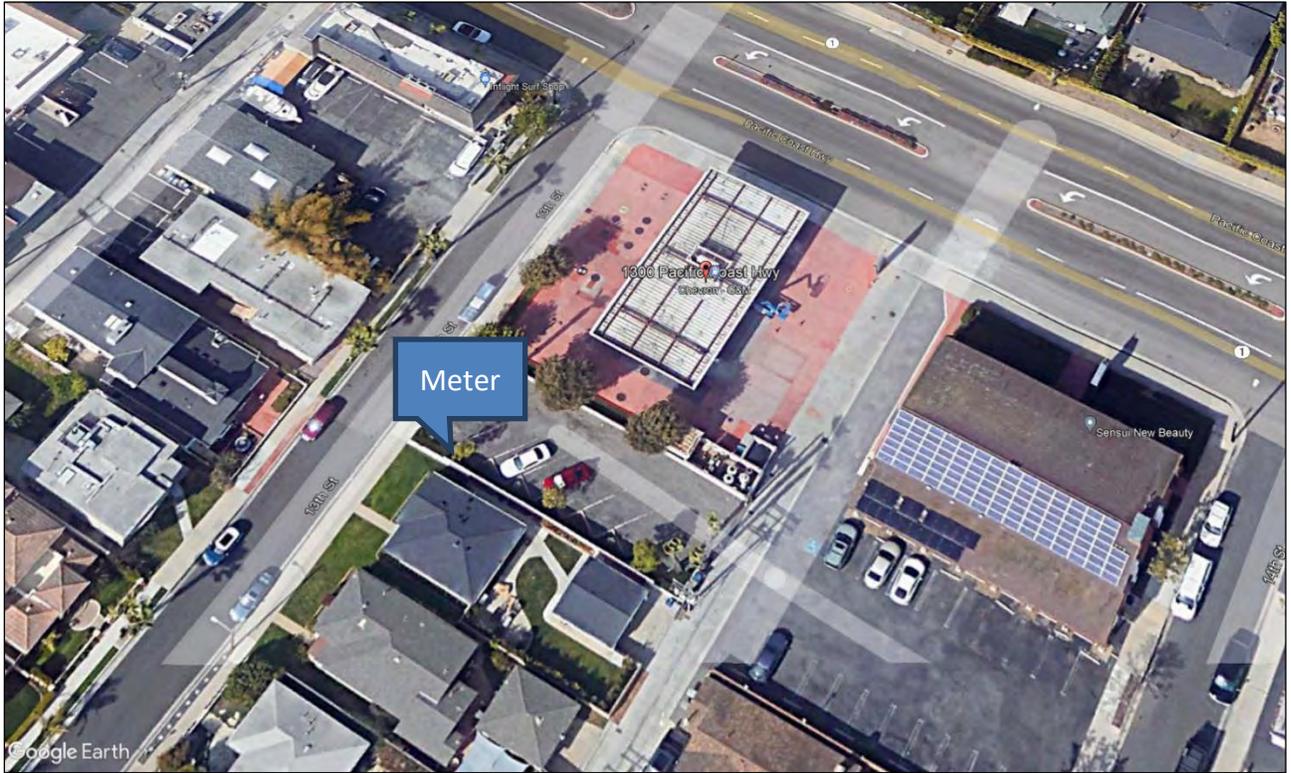
Baseline Noise Levels

The analysis is based on the Noise Analysis report produced by Giroux & Associates on April 22, 2022 and included as Appendix C of the document.

A noise study was conducted by Giroux & Associates on Thursday, February 10, 2022, with short-term noise readings at the project site. Short-term (15-minute) noise measurements were conducted on the partial wall at the shared property line with the residence to the south. The location of the meter is shown in Exhibit 5. The location was chosen to be representative of the current noise environment at the closest and therefore most impacted sensitive use. For accuracy, two measurements were made at the same location.

The observed Leqs for the two measurements were 65 and 64 dBA. The maximum noise levels were 81 dBA and 72 dBA. Observed minimums for the sites were 48 and 44 dBA. Overall, it was evident that the area is subject to a lot of traffic on PCH which generates a good deal of noise. During the measurements there were car doors opening and closing at the existing pumps, but these activities were rarely detectable unless there was a short period of relative quiet from fewer cars due to traffic control. Also significant were the cars parked on both sides of 13th Street. The entire street was full of parked cars on both sides of the roadway, with frequent comings and goings.

Exhibit 5 Noise Meter Location



Would the Project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less Than Significant Impact)

A noise assessment of the Project was completed by Giroux and Associates on April 22, 2022, to determine the existing noise levels at the site and Project noise impacts from the proposed Project. The noise study is included as Appendix C to this environmental document. The Project itself will not generate noise levels in excess of standards established in the General Plan.

Impact Significance Criteria

Noise impacts are considered significant if they result in:

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b. Generation of excessive groundborne vibration or groundborne noise levels.
- c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels.

Several characteristic noise sources are typically identified with land use intensification such as that proposed for the development of the proposed Project. Construction activities, especially heavy equipment, will create short-term noise increases near the site. Such impacts would be important for possible noise-sensitive receptors. Additionally, the Project analysis examines operational noise on adjacent receptors. There are no airports within proximity to the Project.

The term "substantial increase" is not defined by any responsible agency. The limit of perceptibility by ambient grade instrumentation (sound meters) or by humans in a laboratory environment is around 1.5 dB. Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a 3 dB difference. A threshold of 3 dB is commonly used to define "substantial increase." An increase of +3 dBA CNEL in traffic noise would be consistent a significant impact.

Construction Noise Impacts

The noise impact assessment evaluates short-term (temporary) impacts associated with Project construction. For construction noise, the potential for impacts is assessed by considering several factors, including the proximity of construction-related noise sources to sensitive receptors, typical noise levels associated with construction equipment, the potential for construction noise levels to interfere with adjacent activities, and whether proposed activities would occur outside the construction time limits specified in the Seal Beach Municipal Code.

The City of Seal Beach limits construction activities to between hours of 7:00 a.m. and 8:00 p.m. Monday through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8 :00 p.m. on Sundays or city-observed federal holidays. Construction activities that occur during allowable hours are exempt from compliance with numerical noise standards.

Construction noise levels will vary at any given receptor and are dependent on the construction phase, equipment type, duration of use, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. The closest sensitive use is the single-story structure to the south with a 5.5-foot setback to the shared property line and a 15.5-foot setback to the closest façade of the convenience store. Most demolition will occur at the current pump area with a setback distance of approximately 70 feet. An 8-foot block wall will be constructed at the shared property line and will help mitigate off-site noise.

The exact construction schedule for the proposed development is not known at this time. Construction equipment such as bulldozers, backhoes, loaders, and assorted other hand tools and professional grade equipment would likely be used.

In 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model that includes a national database of construction equipment reference noise emissions levels. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power during a construction phase. The usage factor is a key input variable that is used to calculate the average Leq noise levels.

Table 9 identifies highest (Lmax) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptor and the extent of equipment usage (usage factor), which is represented as Leq. The table is organized by construction activity and equipment associated with each activity.

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (Leq) at distance D between the source and receiver (dBA).

$$Leq = L_{max} @ 50' - 20 \log (D/50') + 10 \log (U.F\%/100) - I.L.(bar)$$

Where:

- Lmax @ 50' is the published reference noise level at 50 feet
- U.F.% is the usage factor for full power operation per hour
- I.L.(bar) is the insertion loss for intervening barriers

Table 9 Construction Equipment Noise Levels at 50-Foot Reference Distance

Phase Name	Equipment	Usage Factor ¹	Hours of Operation ²	Measured Noise @ 50 feet (dB)	Cumulative Noise Level @ 50 feet (dB)
Demolition	Dozer	40%	3.2	82	78
	Concrete Saw	20%	1.6	90	84
	Loader/Backhoe	37%	3.0	78	74
Grading	Grader	40%	3.2	85	81
	Dozer	40%	3.2	82	78
	Loader/Backhoe	37%	3.0	78	74
Building Construction	Forklift	20%	1.6	75	68
	Loader/Backhoe	37%	3.0	78	74
	Crane	16%	1.3	81	73
	Welder	46%	3.7	74	71
Paving	Paver	50%	4.0	77	74
	Paving Equip	40%	3.2	76	72
	Roller	38%	3.0	80	76

Source: FHWA's Roadway Construction Noise Model, 2006

1. Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
2. Represents the actual hours of peak construction equipment activity out of a typical 8-hour day.

The highest noise levels generated by Project construction activities would typically range from about 74 to 90 dBA Lmax at a distance of 50 feet from the noise source. Adjusted for usage typical hourly average construction generated noise levels are about 68 dBA to 84 dBA Leq measured at a reference distance of 50 feet from the site. Construction generated noise levels drop off or increase at a rate of about 6 dBA per doubling/halving of distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors. The potential for construction-related noise to adversely affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors.

On-Site Demolition

Demolition activities are predicted to require use of the noisiest construction equipment. The probable equipment fleet includes a backhoe, a dozer, and a concrete saw. Demolition debris will be hauled off site. The existing pumps area is minimally 70 feet from the closest sensitive use. At 70 feet the noisiest piece of construction equipment, a concrete saw, could generate noise levels of 81 dBA Leq. Other demolition equipment such as a loader/backhoe will only generate noise levels of about 75 dBA which will be much quieter. Demolition is estimated to require 10 days.

On-Site Grading

The site is flat. Grading is anticipated to require 2 days. After demolition, grading will generate the most noise. The closest off-site structures only have a 5.5-foot distance separation from the Project property line. Since the site is small, most grading will be done with smaller hand tools such as loader/backhoe, not a dozer. The loader/backhoe will not operate directly at the property line for any length of time. Interior noise levels would be approximately 25 dBA lower assuming closed windows. Although noise levels would be noticeable, they would be temporary and will occur only when heavy equipment operates at the closest property line. The site is flat and grading is only anticipated to require 2 days.

Building Construction

Construction activities would require smaller, less noisy equipment than demolition and grading but would require a longer duration. However, the small convenience store is the only major planned structure. The project also includes a new canopy over the fueling dispensing area and a trash enclosure. The closest on-site to off-site sensitive use is 15.5 feet from the closest building facade. At the closest residence construction noise levels could be as high as 84 dBA Leq without consideration of the block wall. With closed windows, the noise interior noise level would decrease to 59 dBA Leq. The planned 8-foot wall would reduce noise levels by approximately -5 dBA.

Paving

There is minimal paving along the southern property line which is closest to off-site residential.

Summary

Construction noise is unavoidable though noise would be temporary and limited to the duration of the construction in any one location and different types of construction equipment would be used throughout the construction process. These temporary impacts will cease once the Project is

completed. Complete elimination of construction activity noise is technically infeasible. However, incorporation of the best available noise reduction methods will minimize impacts.

Associated noise can be mitigated by required compliance with all applicable regulatory measures. Compliance with the following measures is recommended:

- Construction activities are limited to the hours of 7:00 a.m. and 8:00 p.m., Monday through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8:00 p.m. on Sundays or city-observed federal holidays.
- Construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers.
- Material stockpiles and/or vehicle staging areas shall be located as far as practical from dwelling units.

Compliance with these regulatory measures will minimize any adverse construction noise impact potential. No mitigation measures are necessary.

b) Generation of excessive groundborne vibration or groundborne noise levels? (No Impact)

See response to Item 13.a) above.

Construction Activity Vibration

Construction activities generate groundborne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of groundborne vibration include discernible movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration-related problems generally occur due to resonances in the structural components of a building because structures amplify groundborne vibration. Within the “soft” sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction Projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

A vibration descriptor commonly used to determine structural damage is the peak particle velocity (ppv) which is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second (in/sec). The range of such vibration is as follows in Table 10.

Table 10 Human Response To Transient Vibration

Average Human Response	Peak Particle Velocity (ppv) (in/sec)
Severe	2.000
Strongly perceptible	0.900
Distinctly perceptible	0.240
Barely perceptible	0.035

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2013

According to Caltrans, the threshold for structural vibration damage for modern structures is 0.5 in/sec for intermittent sources, which include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures from intermittent construction or maintenance activities for residential buildings in good repair with gypsum board walls to be 0.4–0.5 in/sec as shown in Table 11. Below this level there is virtually no risk of building damage.

Table 11 FTA and Caltrans Guideline Vibration Damage Potential Threshold Criteria

Building Type	Peak Particle Velocity (ppv) (in/sec)
FTA Criteria	
Reinforced concrete, steel or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12
Caltrans Criteria	
Modern industrial/commercial buildings	0.5
New residential structures	0.5
Older residential structures	0.3
Historic old buildings	0.25
Fragile buildings	0.1
Extremely fragile ruins, ancient monuments	0.08

The predicted vibration levels generated by construction equipment anticipated for use are shown below in Table 12.

Table 12 Estimated Vibration Levels During Project Construction

Equipment	Peak Particle Velocity (ppv) (inches per second)				
	at 10 ft	at 15 ft	at 25 ft	at 40 ft	at 50 ft
Large Bulldozer	0.352	0.191	0.089	0.044	0.031
Loaded trucks	0.300	0.163	0.076	0.037	0.027
Jackhammer	0.138	0.075	0.035	0.017	0.012
Small Bulldozer	0.012	0.006	0.003	0.001	<0.001

Source: FHWA Transit Noise and Vibration Impact Assessment

The calculation to determine PPV at a given distance is:

$$PPV_{\text{distance}} = PPV_{\text{ref}} * (25/D)^{1.5}$$

Where:

PPV_{distance} = the peak particle velocity in inches/second of the equipment adjusted for distance,

PPV_{ref} = the reference vibration level in inches/second at 25 feet, and

D = the distance from the equipment to the receiver.

Typically, equipment will operate at much greater setbacks than the distances shown above. As seen on Table 12, even at a 10-foot setback the vibration levels are below levels that could create structural damage (i.e., 0.4-0.5 in/sec). However, if heavy grading equipment such as a bulldozer were to be operated 10-feet from the shared property-line, vibration levels could exceed the level of annoyance.

There, the following measure would ensure that vibration would not be annoying or cause structural damage to adjacent residences:

- Heavy equipment such as graders and dozers shall maintain a minimal 25 foot setback distance from the southern site perimeter. Any grading within 25-feet shall be done with smaller equipment such as a loader/backhoe or bobcat.

Site Operational Noise

The Project proposes less pumps than currently installed. There are fewer associated trips. The convenience store structure would act as a noise wall and would acoustically shield the residences to the south, as will the 8-foot block wall. Convenience store customers will park at the pumps or in front of the store. There is a 10-foot rear setback from the convenience store to the closest at the southern perimeter that will be landscaped. The trash dumpster is along the eastern perimeter. On-site observations showed that car activity associated with pumping gas (doors opening and closing) was generally not audible over background noise including traffic from Pacific Coast Highway. Operational noise will be less than significant, and lower than the existing on-site use.

Construction noise will be less than significant with the inclusion of the following measures:

- Allowable hours of construction are 7:00 a.m. and 8:00 p.m., Mondays through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8 :00 p.m. on Sundays or city-observed federal holidays.
- Construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers.
- Material stockpiles and/or vehicle staging areas shall be located as far as practical from dwelling units.

The following measure is required to ensure acceptable vibration levels at adjacent receptors:

- Heavy equipment such as graders and dozers shall maintain a minimal 25 feet setback distance from the shared residential property line to the south. Any grading shall be done with smaller equipment such as a loader/backhoe or bobcat.

The proposed 8-foot solid wall at the southern end of the site will assist in blocking possible noise intrusion at the nearest sensitive uses.

Project operational noise is anticipated to be less than existing noise levels due to a reduction in the number of pumps and associated trips. Traffic from PCH was observed to dominate the noise environment with minimal noise (car doors opening and closing) audible beyond the gas station boundary. The proposed convenience store structure will act as a noise barrier between the gas pumps and adjacent sensitive uses.

Customers for the convenience store will park at the pumps or in front of the store. The area at the store rear, between the store and the sensitive uses (a 10-foot setback) will be landscaped.

- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)**

The Project is located within an airport environs land use plan for the Los Alamitos Joint Forces Training Center. However, the land use designation in this area relates to building height, and there will be no impact to people working at the Project site who will not be exposed to excessive noise levels from aircraft.

- d) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)**

The Project is not located within the vicinity of a private airstrip, nor would the Project expose people to excessive noise levels. Therefore, there are no Project impacts associated with a private airstrip.

14. Population and Housing

Would the Project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)**

The Project consists of the demolition and replacement of an existing gas station at 1300 Pacific Coast Highway and 328 13th Street in the City of Seal Beach. The project would also construct a mini market at 328 13th Street. The Project would not induce substantial population growth in the Project area.

No new or unanticipated significant infrastructure will be required for the Project. Therefore, due to the limited nature of the Project it is not anticipated that the Project will induce substantial population growth in the area, either directly or indirectly. The Project is designed to serve the existing area population. There is no impact from this Project.

- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)**

The Project proposes to develop the residentially zoned property to accommodate the convenience store to serve the gas station site. The project would not displace substantial numbers of existing housing. Therefore, the Project will not displace substantial existing housing.

See response to Item 14.a) above. The Project will not result in the significant displacement of any people and/or housing. The Project will not displace substantial numbers of people, necessitating the construction of replacement housing.

15. Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i. Fire protection? (No Impact)

The Orange County Fire Authority provides fire protection and emergency response services for the City. Response times to the Project site are dependent on various factors. Response time is generally 5 minutes or less. The Fire Authority's response goal is to arrive within seven minutes and 20 seconds, 80% of the time. Emergency calls receive the quickest response times with alarm calls and non-emergency calls having longer response times respectively. The availability of personnel and extenuating circumstances may further affect response times. The closest fire station to the property is located at 718 Central Avenue in Seal Beach, less than 1 mile from the Project site in the downtown area. The proposed Project will not result in any potential significant increase in the number of calls for service to the area beyond that anticipated per the build out of the City's General Plan. The proposed project is basically a replacement of the existing gas station on the site. Therefore, it is not anticipated that the proposed Project will result in any significant impacts relative to fire protection services and/or facilities.

ii. Police protection? (No Impact)

The City of Seal Beach Police Department provides law enforcement services to the Project area. The Project involves demolition and replacement of an existing gas station at 1300 Pacific Coast Highway in the City of Seal Beach. The improvements are not anticipated to result in an increase in calls for service beyond that anticipated in the City of Seal Beach General Plan. Therefore, there are no impacts from the Project.

iii. Schools? (No Impact)

The Project involves demolition and replacement of an existing gas station in the City of Seal Beach. The Project would not increase students in the area. The Project would not affect school population. Therefore, the Project is not anticipated to have an impact on schools.

iv. Parks? (No Impact)

The Project involves demolition and replacement of an existing gas station. The improvements will not necessitate new park requirements or impact park facilities in the City. Therefore, the Project will have no impact on park facilities.

v. Other public facilities? (No Impact)

See above responses under Public Services. Due to the type of Project, it is not anticipated that the Project will have any significant impact on public services and/or facilities.

16. Recreation

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (No Impact)**

The proposed Project consists of demolition and replacement of the existing gas station at 1300 Pacific Coast Highway and 328 13th Street in the city of Seal Beach. It is not anticipated that the Project will have any impacts on recreation beyond that already projected for build out of the City per the General Plan. Additionally, the Project is replacement of an existing gas station and would not be expected to increase usage of existing neighborhood and regional parks. Therefore, no impacts to park facilities will occur as a result of this Project.

- b) **Does the project include recreational facilities or require the construction of or expansion of recreational facilities which might have an adverse physical effect on the environment? (No Impact)**

See response to Item 16.a) above. It is not anticipated that the Project will result in any significant impacts to recreational facilities.

17. Transportation/Traffic

Would the Project:

- a) **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (Less Than Significant Impact)**

A Trip Generation Memorandum (Appendix D) was prepared for the Gas Station Project dated December 12, 2021. The Project involves the demolition and replacement of a gas station at 1300 Pacific Coast Highway in the City of Seal Beach. The Project site is in a commercial area, and the Project is consistent with the General Plan Land Use Designation on the site of the existing gas station. However, the project also proposes to develop a structure on the adjacent parcel at 328 13th Street. That parcel would require a General Plan Amendment to change the land use designation from residential to commercial and a zone change to re-zone the parcel from residential to commercial. A new gas station would be constructed with fewer fueling positions and a larger convenience store area. The Project is consistent with applicable plans, ordinances, or policies establishing measures of effectiveness for the circulation system, including the Main Street Specific Plan (MSSP), which establishes a level of service for Pacific Coast Highway that recognizes that traffic and parking near the downtown area will lead to less than established level of service standards for other roads in the City's Circulation Element.

A trip generation calculation was conducted for the proposed project characteristics. The trips expected to be generated by the project were calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). The trip rates are based on the Gasoline/Service Station Land Use 994. This land use designation is applicable for both the existing and proposed facilities.

The calculations determined that the proposed project is estimated to generate 688 fewer trips to the roadway network on a daily basis, with 16 fewer trips in the morning peak hours, and 34 fewer trips in the evening peak hour.

Therefore, less than significant impacts are anticipated from this Project affecting the circulation system or any modes of transportation.

b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)? (Less Than Significant Impact)

See response to Item 17.a) above. A Trip Generation Memorandum determined that there would be a reduction of 668 daily trips as a result of the project. It is anticipated that the significant reduction in trips will also involve a reduction in vehicle miles traveled as a result of implementation of the project. Therefore, less than significant impacts would result due to implementation of the project.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

See response to Item 17.a) above. The Project does not propose any design features relative to curves, intersections, or incompatible uses.

d) Result in inadequate emergency access? (No Impact)

See response to Item 17.a) above. The Project does not propose to change any emergency access in the City of Seal Beach. Therefore, no significant impacts regarding emergency access are anticipated as a result of the Project.

See response to Item 17.a) above. The proposed Project will not conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

The Orange County Transportation Authority (OCTA) provides public transportation services in Orange County, including Seal Beach. Bus routes (OCTA Bus Route 1) operate along State Route 1 (Pacific Coast Highway) and (Route 42A) operate along Seal Beach Boulevard and Pacific Coast Highway/Downtown. Long Beach Transit also provides bus service in Seal Beach. Long Beach Transit Routes 131 and 171 run along Main Street, Electric Avenue and Pacific Coast Highway. The City of Seal Beach also operates the Shopping Shuttle that serves Leisure World residents on Thursdays from 8:00 a.m. to 4:30 p.m. as well as a Dial-A-Ride program. The Project is not expected to negatively impact any current facility, service, or service expansion plans for the Project area and/or site. Therefore, the Project will not conflict with adopted policies, plans, or programs supporting alternative transportation.

18. Tribal Cultural Resources

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? (No Impact)**

There are no historical resources listed for the Project site. There are no historical resources listed in a local register. Therefore, there would be no impact from the proposed project.

- ii. **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (Less Than Significant)**

The City of Seal Beach contacted California Native American Tribes that had an interest in the subject project site area. The Gabrieleño Band of Mission Indians - Kizh Nation requested consultation on the project. The project is within the areas of interest demonstrated for that specific tribe. The consultation resulted in an agreement that the Tribe would provide a Native American Monitor on the project site during any excavation or grading activities. Therefore, project impacts are less than significant.

19. Utilities and Service Systems

Would the Project:

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (No Impact)**

The Project is not anticipated to produce any significant wastewater beyond what it has produced as the existing gas station on the site. It will not trigger relocation or expansion of existing facilities. Therefore, there will be no generation of wastewater beyond what the facility produced in past years. The existing service station is already included in the build-out capacity of the City of Seal Beach General Plan, which projected capacity to handle development within Zoning and General Plan designations. Therefore, it is not anticipated that the proposal will result in any impact relative to wastewater or treatment requirements.

The Project will not result in the significant alteration or expansion of existing utility and service systems since the site is proposed to be rebuilt as it operated for many years in the past. The Project does not create any additional burden on these facilities that would require construction of new or expanded facilities. Therefore, the Project will have no impact on existing or new water or wastewater treatment facilities.

The Project proposes to use the storm water drainage facilities in existence now that have served storm water run-off from the project site in the past. The proposed Project is not expected to generate significant storm water due to the minimal change in the property's impervious surfaces. The Project will include a reduction in gas pump islands and an increase in the convenience store area but will not involve changes to storm water drainage facilities. Therefore, the Project will result in no impacts to the storm water drainage facilities.

- b) **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)**

See response to Item 19.a) above. The City of Seal Beach pumps its own water to serve the community, including the Project site. Any additional water needed is supplied to the City of Seal Beach through the Municipal Water District of Orange County by imported water sources purchased from the Metropolitan Water District. The Project proposes only replacement of an existing commercially

designated property (gas station). The Project does not represent any development that would significantly increase water use. The Project will comply with all applicable City, state, and municipal laws pertaining to water conservation as required through City standard conditions of approval. Therefore, no impacts to this topical area will occur.

- c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)**

See response to Item 19.a) above. The Project will not result in any impacts to wastewater treatment.

- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (No Impact)**

The Project site is located at 1300 Pacific Coast Highway in the City of Seal Beach. The Project is not anticipated to generate significant solid waste since it proposes replacement of the existing gas station, which was previously served by a landfill with sufficient permitted capacity. Minor solid waste generated on the site during construction will be handled through the traditional solid waste collection system in place in the City of Seal Beach and it is not expected to be significant. Republic Services provides solid waste collection and recycling services in the City of Seal Beach. Any solid waste generated during Project construction will be handled according to City solid waste disposal and recycling requirements. Therefore, the Project itself will not have any impact on solid waste disposal.

- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)**

See response to Item 19.d) above. The Project will comply with federal, state, and local statutes on solid waste disposal.

20. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan? (No Impact)**

The project would not impair an adopted emergency response plan or an emergency evacuation plan. The project would merely replace the gas station and mini market that is currently operating on the site. Therefore, no impact would occur as a result of this project.

- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (No Impact)**

The project is located in an urbanized area of the City of Seal Beach. The project site is a flat parcel that would not exacerbate wildfire risks. Therefore, there are no impacts.

- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)**

The project will utilize existing roads, power lines, emergency water resources and will not result in the installation or maintenance of such infrastructure. Therefore, there will be no impacts in this area.

- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (No Impact)**

The Project site is a flat parcel that currently supports an existing gas station. There are no drainage changes proposed with the project. No people or structures would be exposed to significant risks such as flooding or landslides. Therefore, there will be no impacts.

21. Mandatory Findings of Significance

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (No Impact)**

On the basis of the foregoing analysis, the proposed Project does not have the potential to substantially degrade the quality of the environment. The Project site does not contain any habitat of fish or wildlife species that would be impacted by the Project. The site is located in an urbanized setting. The proposed Project consists of the demolition and replacement of the gas station at 1300 Pacific Coast Highway and includes the adjacent parcel at 328 13th Street. The subject property is located in an area developed with existing uses including commercial establishments, restaurants, and residences. The Project is compatible with the surrounding land uses. The Project will not impact any sensitive nor special status habitat and/or wildlife species.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (No Impact)**

The Project is the demolition and replacement of a gas station at 1300 Pacific Coast Highway in the City of Seal Beach. The Project does not have impacts that are cumulatively considerable. The Project is consistent with the zoning on the property.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (No Impact)**

There are no known substantial adverse effects on human beings that would be caused by the proposed Project. The Project is consistent with the land uses in the Project area and the environmental evaluation has concluded that no adverse significant environmental impacts will result from the Project.

Source List

The following enumerated documents are available at the offices of the City of Seal Beach, Community Development Department, 211 Eighth Street, Seal Beach, California 90740.

1. City of Seal Beach General Plan Policies, Adopted 12/03
2. California Environmental Quality Act as amended January 1, 2022. §§21000-21178 of the *California Public Resources Code*
3. Guidelines for California Environmental Quality Act as amended January 1, 2022, §15000-15387 of the *California Code of Regulations*, Title 14, Chapter 3, State of California
4. City of Seal Beach Land Use Element, Adopted 12/03
5. City of Seal Beach Open Space/Conservation Element Adopted 12/03
6. City of Seal Beach Noise Element, Adopted 12/03
7. City of Seal Beach Circulation Element, Adopted 12/03
8. Zoning Map, City of Seal Beach
9. Air Quality and GHG Impact Analysis, prepared by Giroux & Associates, dated April 22, 2022
10. Noise Impact Analysis prepared by Giroux and Associates, dated April 22, 2022
11. Federal Flood Insurance Rate Map, Panel No. 06059C-0226K, 2021
12. <https://geotracker.swrcb.ca.gov>
13. City of Seal Beach Safety Element, Adopted 12/03
14. Trip Generation Memorandum, Kimley Horn, December 12, 2021

Appendix A – Environmental Checklist

Environmental Checklist Form

Introduction

This Initial Study has been prepared pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines as amended to determine if the proposed Bay Theater Restoration Project at 340 Main Street in the City of Seal Beach (City) will have the potential to cause significant effects on the environment. The City of Seal Beach will use the Initial Study in deciding whether to approve the Project and whether to prepare an Environmental Impact Report (EIR), approve a Negative Declaration (ND), or approve a Mitigated Negative Declaration (MND) with mitigation measures.

Project Background

1. Project Title:
Gas Station and Mini-Market
2. Lead Agency Name and Address:
City of Seal Beach
211 Eighth Street
Seal Beach, CA 90740
3. Contact Person and Phone Number:
Art Bashmakian, Senior Planner
City of Seal Beach
211 Eighth Street
Seal Beach, CA 90740
(562) 431-2527, ext. 1316
4. Project Location:
The Project is located at 1300 Pacific Coast Highway and 328 13th Street in the City of Seal Beach, Orange County, California.
5. Project Sponsor's Name and Address:
G&M Oil Company
16868 A Lane
Huntington Beach, CA 92647-4831
6. General Plan Designation:
Commercial-General, Residential High Density
7. Zoning:
General Commercial, Residential High Density 20
8. **Description of Project:** (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

An existing gas station is located at 1300 Pacific Coast Highway in the City of Seal Beach at the intersection of Pacific Coast Highway and 13th Street. The project consists of the demolition of the existing gas station at 1300 Pacific Coast Highway, including five gas pumps, a kiosk, and two

subsidiary structures, including a new canopy over the fuel dispensing area. The existing underground storage tanks would be removed and any soil contamination would be remediated. The project also includes construction of a new gas station on the property with three replacement gas pumps, new underground storage tanks, and a 1,200-square-foot convenience store on an adjacent parcel behind the existing gas station. The project would include an amendment to change the General Plan Land Use Designation of the adjacent parcel at 328 13th Street from residential to commercial to accommodate the new convenience store in connection with the proposed gas station.

9. Surrounding Land Uses and Setting:

The site is within Planning Area 1, the Old Town area of the City. The proposed Project site is surrounded by commercial establishments, restaurants, and residential uses. It is on the edge of the downtown area of the City.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Orange County Fire Authority

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The City of Seal Beach contacted California Native American Tribes that had an interest in the subject project site area. The Gabrieleño Band of Mission Indians - Kizh Nation requested consultation on the project. The consultation resulted in an agreement that the Tribe would provide a Native American Monitor on the project site during any excavation or grading activities. Therefore, project impacts are less than significant.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | |
|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> Land Use and Planning | |

Determination

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that the proposed Project MAY have a significant effect on the environment, and ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the proposed Project MAY have a "potentially significant effect" or a "potentially significant unless mitigated impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	<input type="checkbox"/>
I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.	<input type="checkbox"/>

Submitted by: City of Seal Beach

Prepared by: Hodge & Associates

William Hodge

William E. Hodge
Hodge & Associates

9-7-22

Date

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project screening analysis).
2. All answers must take account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence then an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analyses,” may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration, Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on earlier analysis.
 - c. Mitigation Measures. For effects that are “Less Than Significant With Mitigation Incorporated,” describes the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). References to a previously prepared or outside documents should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and the lead agencies are free to use different formats; however, lead agency should normally address the questions from the checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question; and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significance.

City of Seal Beach Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
I. AESTHETICS				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE AND FORESTRY RESOURCES				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. AIR QUALITY				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeded the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VI. ENERGY				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. GEOLOGY AND SOILS				
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VIII. GREENHOUSE GAS EMISSIONS				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IX. HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. HYDROLOGY AND WATER QUALITY				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. LAND USE AND PLANNING				
Would the proposal:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
XII. MINERAL RESOURCES				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIII. NOISE				
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIV. POPULATION AND HOUSING				
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction of or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. TRANSPORTATION/TRAFFIC				
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVIII. Tribal Cultural Resources				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
XIX. UTILITIES AND SERVICE SYSTEMS				
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XX. WILDFIRE				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIX. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major period of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix B – Air Quality/GHG Analysis

AIR QUALITY and GHG IMPACT ANALYSES
GAS STATION PROJECT AT THE SOUTHEAST CORNER OF
PACIFIC COAST HIGHWAY AND 13TH STREET
CITY OF SEAL BEACH, CALIFORNIA

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Date:

April 22, 2022

Project No.: P22-015 AQ

PROJECT DESCRIPTION

The existing on-site gas station contains ten fueling positions and a kiosk. The Project will demolish these elements and will construct a gas station with six fueling positions and a 1,200-square-foot convenience store building. Overall, the number of customer trips per day is predicted to decrease. The closest sensitive use is immediately adjacent to the southern property line.

ATMOSPHERIC SETTING

The project site's climate, as with all Southern California, is dominated by the strength and position of the semi-permanent high pressure pattern over the Pacific Ocean near Hawaii. It creates cool summers, mild winters, and infrequent rainfall. It drives the cool daytime sea breeze, and it maintains comfortable humidities and ample sunshine after the frequent morning clouds dissipate. Unfortunately, the same atmospheric processes that create the desirable living climate combine to restrict the ability of the atmosphere to disperse the air pollution generated by the large population attracted in part by the desirable climate. Portions of the Los Angeles Basin therefore experience some of the worst air quality in the nation for certain pollutants.

Temperatures in the City of Seal Beach average 61 degrees annually. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby oceanic thermal reservoir. In contrast to the steady temperature regime, rainfall is highly variable. Measurable precipitation occurs mainly from early November to mid-April, but total amounts are generally small. Seal Beach averages 12 inches of rain annually with January as the wettest month.

Winds in the project vicinity display several characteristic regimes. During the day, especially in summer, winds are from the south in the morning and from the west in the afternoon. Daytime wind speeds are 7 – 9 miles per hour on average. At night, especially in winter, the land becomes cooler than the ocean, and an off-shore wind of 3-5 miles per hour develops. Early morning winds are briefly from the south-east parallel to the coastline before the daytime on-shore flow becomes well established again. One other important wind regime occurs when high pressure occurs over the western United States that creates hot, dry and gusty Santa Ana winds from the north and northeast across Newport Beach.

The net effect of the wind pattern on air pollution is that any locally generated emissions will be carried offshore at night, and toward inland Orange County by day. Daytime ventilation is much more vigorous. Unless daytime winds rotate far into the north and bring air pollution from developed areas of the air basin into Seal Beach, warm season air quality is much better in the project vicinity than in inland valleys of the air basin. Both summer and winter air quality in the project area is generally good.

In addition to winds that control the rate and direction of pollution dispersal, Southern California is notorious for strong temperature inversions that limit the vertical depth through which pollution can be mixed. In summer, coastal areas are characterized by a sharp discontinuity

between the cool marine air at the surface and the warm, sinking air aloft within the high pressure cell over the ocean to the west. This marine/subsidence inversion allows for good local mixing, but acts like a giant lid over the basin. Air starting onshore at the beach is relatively clean, but becomes progressively more polluted as sources continue to add pollution from below without any dilution from above. Because of the projects location relative to the ocean, the incoming marine air during warm season onshore flow contains little air pollution. Local air quality is not substantially affected by the regional subsidence inversions.

A second inversion type forms on clear, winter nights when cold air off the mountains sinks to the surface while the air aloft remains warm. This process forms radiation inversions. These inversions, in conjunction with calm winds, trap pollutants such as automobile exhaust near their source. During the long nocturnal drainage flow from land to sea, the exhaust pollutants continually accumulate within the shallow, cool layer of air near the ground. Some areas of Orange County thus may experience elevated levels of carbon monoxide and nitrogen oxides because of this winter radiation inversion condition. However, the coastal areas of Orange County have not substantially been affected by limited nocturnal mixing effects (no elevated levels of CO) in approximately 10 years. Both types of inversions occur throughout the year to some extent, but the marine inversions are very dominant during the day in summer, and radiation inversions are much stronger on winter nights when nights are long and air is cool. The governing role of these inversions in atmospheric dispersion leads to a substantially different air quality environment in summer in the South Coast Air Basin than in winter.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed Project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-FIO at (916) 322-2990

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Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr: ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

BASELINE AIR QUALITY

Existing and probable future levels of air quality around the Project area can best be best inferred from ambient air quality measurements conducted by the SCAQMD at the Anaheim monitoring station. This station measures both regional pollution levels such as smog, as well as primary vehicular pollution levels near busy roadways such as carbon monoxide and nitrogen oxides. Particulates (PM-10 and PM-2.5) are also monitored at the Anaheim station. Table 3 is a 4-year summary of monitoring data for the major air pollutants compiled from this air monitoring station. From this data the following conclusions regarding air quality trends can be drawn:

Photochemical smog (ozone) levels occasionally exceed standards. All state and federal ozone standards have been exceeded on less than 1 percent of all days in the past four years. While ozone levels are still occasionally elevated, they are much lower than 10 to 20 years ago.

Respirable dust (PM-10) levels exceed the state standard on approximately 4 percent of measured days. The less stringent federal PM-10 standard has not been exceeded in the last four years.

The federal ultra-fine particulate (PM-2.5) standard of 35 $\mu\text{g}/\text{m}^3$ has been exceeded on less than one percent of measurement days in the last four years.

More localized pollutants such as carbon monoxide, nitrogen oxides, etc. are very low near the site. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx or CO without any threat of violating applicable AAQS. Data from a "near roadway" monitoring study directly along the I-5 shoulder (<50 feet) in Anaheim showed noticeably elevated levels of NOx and CO, but even at this close distance federal clean air standards were not exceeded.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table 3
Air Quality Monitoring Summary (2017-2020)
(Number of Days Standards Were Exceeded, and
Maximum Levels During Such Violations)

(Entries shown as ratios = samples exceeding standard/samples taken)

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	0	1	1	6
8-Hour > 0.07 ppm (S)	4	1	1	15
8-Hour > 0.075 ppm (F)	2	0	1	4
Max. 1-Hour Conc. (ppm)	0.090	0.112	0.096	0.142
Max. 8-Hour Conc. (ppm)	0.076	0.071	0.082	0.097
Carbon Monoxide				
8-Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	2.1	1.9	1.3	1.7
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.081	0.066	0.059	0.071
Inhalable Particulates (PM-10)				
24-hour > 50 µg/m ³ (S)	17/332	13/320	13/364	13/329
24-hour > 150 µg/m ³ (F)	0/332	0/320	0/364	0/329
Max. 24-Hr. Conc. (µg/m ³)	128.	129.	127.	120.
Ultra-Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	6/305	3/353	3/346	1/355
Max. 24-Hr. Conc. (µg/m ³)	53.9	54.1	36.1	41.4

Anaheim Air Quality Monitoring Station (3176)

S=State Standard

F=Federal Standard

Source: South Coast AQMD – Azusa Monitoring Station
data: www.arb.ca.gov/adam/

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with “serious” or worse ozone problems submit a revision to the State Implementation Plan (SIP). Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because Projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these

issues were not resolved within the next several years, federal funding sanctions for transportation Projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contains a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated 2016 AQMP was adopted by the SCAQMD Board in March 2017. The 2016 AQMD quantified the emissions reductions since the 2012 AQMP. The measure of effectiveness is shown in Table 4.

**Table 4
Comparison of Emissions by Major Source Category From 2012 AQMP**

Pollutant	Stationary Sources	Mobile Sources
VOC	-12%	-3%
NOx	-13%	-1%
SOx	-34%	-23%
PM2.5	-9%	-7%

*source 2016 AQMP

SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NOx emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NOx emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100 percent EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing commercial development Projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth Projections. Air quality impact significance for the proposed Project has therefore been analyzed on a Project-specific basis.

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

- a) Conflicts with or obstructs implementation of the applicable air quality plan.
- b) Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
- c) Exposes sensitive receptors to substantial pollutant concentrations.
- d) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during Project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 5
Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use Projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The Project is proposing to develop the site with a new gas station with 6 fueling positions and a small convenience store. The existing gas station components will be demolished. Construction was modeled in CalEEMod2020.4.0 using the construction equipment and schedule for a Project of this size as shown in Table 6.

Table 6
Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Demolition (10 days)	1 Concrete Saw
	1 Dozer
	2 Loader/Backhoes
Grading (2 days)	1 Grader
	1 Dozer
	1 Loader/Backhoe
Construction (100 days)	1 Crane
	2 Loader/Backhoes
	2 Forklifts
Paving (5 days)	1 Paver
	4 Mixers
	1 Loader/Backhoe
	1 Roller

Utilizing this indicated equipment fleet and durations shown in Table 6 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table 7.

Table 7
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NO _x	CO	SO ₂	PM-10	PM-2.5
2022*	1.1	12.0	7.8	0.0	3.0	1.7
2023	1.8	6.4	7.6	0.0	0.5	0.3
SCAQMD Thresholds	75	100	550	150	150	55

*watering twice daily during the 2 days of grading

Peak daily construction activity emissions are estimated be below SCAQMD CEQA thresholds without the need for added mitigation.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

LOCALIZED SIGNIFICANCE THRESHOLDS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a Project is optional. For the proposed Project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a Project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. The closest sensitive uses directly to the south, therefore, the most stringent thresholds for a 50-meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. For this Project, the most stringent thresholds for a 1-acre site were applied.

The following thresholds and emissions in Table 8 are therefore determined (pounds per day):

Table 8
LST and Project Emissions (pounds/day)

LST 1 acre/25 meters N Coastal Orange County	CO	NOx	PM-10	PM-2.5
LST Thresholds	647	92	4	3
Max On-Site Emissions	8	12	3	2

CalEEMod Output in Appendix
Includes watering twice daily during the two days of grading

LSTs were compared to the maximum daily construction activities. As seen in Table 8, LST impacts are less-than-significant.

OPERATIONAL IMPACTS

The Project would generate 1,032 daily trips using trip generation numbers provided in the Project traffic report. This number is less than the current 1,720 trips generated by the existing use. Nevertheless, the Project operational emissions impact was calculated as if all trips were new trips as a worst-case condition.

Operational emissions were calculated using CalEEMod2020.4.0 for an assumed full occupancy year of 2023. The operational impacts are shown in Table 9. As shown, operational emissions will not exceed applicable SCAQMD operational emissions CEQA thresholds of significance even without taking credit for existing on-site use.

Table 9
Proposed Uses Daily Operational Impacts (2023)

Source	Operational Emissions (lbs/day)					
	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Area	<0.1	<0.1	0.0	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	0.0	<0.1	<0.1	<0.1
Mobile	1.8	1.1	9.5	<0.1	1.3	0.4
Total	1.8	1.1	9.5	<0.1	1.3	0.4
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

GASOLINE DISPENSING EMISSIONS AND HEALTH RISK

The gasoline station is subject to and required to comply with SCAQMD Rules 461 (Gasoline Transfer and Dispensing) as well as a Permit to Construct and Permit to Operate, Rules 201 and 203, respectively¹. These required permits identify a maximum annual throughput allowed based on specific fuel storage and dispensing equipment that is proposed by the operator.

Rule 461 – Gasoline Transfer and Dispensing requires annual throughput reporting requirements. It is designed to regulate gasoline vapor emissions from gasoline transfer and dispensing processes. The rule was initially adopted in 1976 and has been amended several times.

Vapor recovery systems are required at gas stations to collect gasoline vapors that would otherwise escape into the atmosphere. All retail service stations under the SCAQMD jurisdiction have Phase I and II vapor recovery systems to control gasoline emissions. Phase I vapor recovery refers to the collection of gasoline vapors displaced from storage tanks when cargo tank trucks make gasoline deliveries. Phase II vapor recovery systems control the vapors displaced from the vehicle fuel tanks during refueling. All gasoline is stored underground with valves installed on the tank vent pipes to further control gasoline emissions.

ROG is associated with fueling activity and is one of the major ingredients that contributes to ground-level ozone (smog) formation. The proposed fuel dispensing operation is considered a stationary source emitter and is regulated in order to control the emissions of ROG.

The EPA has published a calculator to determine the ROG content for Gasoline Dispensing Facilities². Based on the project having 6 fuel pumps the emissions potential is 1.041 tons per year for ROG.

The project would minimize the release of gasoline vapors via compliance with SCAQMD Rule 461, Gasoline Transfer and Dispensing, by installing a Phase II vapor recovery system for gasoline pumps and a Phase I vapor recovery system for the gasoline underground storage tanks. Although South Coast AQMD Rule 461 will reduce ROG emissions they are not eliminated from the fueling process.

Gasoline vapors also have the potential to produce Toxic Air Contaminants (TACs). TACs are defined by CARB as pollutants that “may cause or contribute to an increase in deaths or serious illness, or which may pose a present or potential hazard to human health.” TACs include benzene, hexane, MTBE, toluene, and xylene. However, only three (benzene, ethylbenzene, and naphthalene) result in cancer effects and are analyzed for cancer risk. Although gasoline vapors

¹ <http://www.aqmd.gov/home/rules-compliance/compliance/gasoline-dispensing2>

² https://www.google.com/search?ei=R68OXIKyI8HAsQW_15ewBQ&q=voc+percentage+gasoline+dispensing+storage&oeq=voc+percentage+gasoline+dispensing+storage&gs_l=psy-ab.3...3154.9514.9936..20.0.128.2351.tj20.....0...1.gws-wiz.....0i71j33i22i29i30j33i299j33i160.DNXhdXvHYdk

have non-cancer impacts, the risks from retail gasoline dispensing facilities are dominated by cancer risk.

The SCAQMD has published a Risk Assessment Procedures document for Rules 1401, 1401.1 & 212³ which provides screening-level risk estimates for gasoline dispensing operations. These thresholds are utilized in order to identify potentially significant health risk impacts that may result from exposure to sensitive populations. This screening-level risk estimate is very conservative (i.e. it would overstate rather than understate potential impacts).

The cancer risk look-up screening tables, located in Appendix "N"⁴, are available for various meteorological receptor areas located within the SCAQMD jurisdiction. The screening tables are also dependent on annual throughput and distance to a sensitive receptor. For this project, the applicant estimates a throughput of approximately 110 million gallons per month. The most stringent 25-foot source receptor distance was modeled for the closest residential use. Additionally, cancer risk at the J.H. McGaugh Elementary School which is approximately 500 meters from the site was evaluated.

Based on the look up tables it is anticipated the closest residential receptor in the project vicinity will be exposed to a cancer risk of 3.6 in one million for below ground tanks. This risk is much less than the applicable threshold of 10 in one million.

Rule 1401.1 requires the facility-wide cancer risk to be less than one in one million at any school or school under construction within 500 feet of the facility. The cancer rate at the elementary school would be 0.03 in one million. These risks are much less than the applicable threshold of 1 in one million. Therefore, no mitigation is required.

Underground storage tanks have a limited lifetime though the rate of corrosion and tank failure is completely dependent on tank type, installation, and site circumstances. Replacing the existing older storage tanks with newer and safer tanks can only provide a benefit in terms of possible leaks or gas vapors.

³ http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf

⁴ <http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf?sfvrsn=4>

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better rated heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect

sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A Project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of Project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial Projects where the SCAQMD is the lead agency (e.g., stationary source permit Projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO₂e for all land use Projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, Project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

The City of Seal Beach has not yet completed a finalized Greenhouse Gas Reduction Plan. The applicable GHG planning document is AB-32. As discussed above, the project is not expected to result in a significant increase in GHG emissions. As a result, the project results in GHG emissions below the recommended SCAQMD 3,000-ton threshold. Therefore, the project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

CALEEMOD2020.4.0 COMPUTER MODEL OUTPUT

- DAILY EMISISONS
- ANNUAL EMISSIONS

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Seal Beach Gas Station - South Coast Air Basin, Summer

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

**Seal Beach Gas Station
South Coast Air Basin, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market with Gas Pumps	6.00	Pump	0.02	847.05	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Vehicle Trips - trip rates per traffic study

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	322.50	172.00
tblVehicleTrips	SU_TR	322.50	172.00
tblVehicleTrips	WD_TR	322.50	172.00

2.0 Emissions Summary

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Seal Beach Gas Station - South Coast Air Basin, 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	MBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1105	12.0239	7.8482	0.0149	5.4014	0.5178	5.9192	2.5923	0.4764	3.0687	0.0000	1,446,511 4	1,446,511 4	0.4436	2.4400e- 003	1,458,181 3
2023	1.7629	6.4186	7.6486	0.0130	0.2012	0.3203	0.4666	0.0534	0.2946	0.3010	0.0000	1,213,973 1	1,213,973 1	0.3573	4.0600e- 003	1,222,834 5
Maximum	1.7629	12.0239	7.8482	0.0149	5.4014	0.5178	5.9192	2.5923	0.4764	3.0687	0.0000	1,446,511 4	1,446,511 4	0.4436	4.0500e- 003	1,458,181 3

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	MBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1105	12.0239	7.8482	0.0149	2.4798	0.5178	2.9976	1.1796	0.4764	1.6560	0.0000	1,446,511 4	1,446,511 4	0.4436	2.4400e- 003	1,458,181 3
2023	1.7629	6.4186	7.6486	0.0130	0.2012	0.3203	0.4666	0.0534	0.2946	0.3010	0.0000	1,213,973 1	1,213,973 1	0.3573	4.0600e- 003	1,222,834 5
Maximum	1.7629	12.0239	7.8482	0.0149	2.4798	0.5178	2.9976	1.1796	0.4764	1.6560	0.0000	1,446,511 4	1,446,511 4	0.4436	4.0500e- 003	1,458,181 3

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Seal Beach Gas Station - South Coast Air Basin, 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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.15	0.00	45.75	53.40	0.00	41.92	0.00	0.00	0.00	0.00	0.00	0.00

Seal Beach Gas Station - South Coast Air Basin, Summer

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	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003
Energy	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465
Mobile	1.8255	1.1390	9.5460	0.0139	1.2977	0.0123	1.3100	0.3458	0.0115	0.3572		1,417.2616	1,417.2616	0.1745	0.1021	1,452.0340
Total	1.8445	1.1395	9.5470	0.0139	1.2977	0.0124	1.3100	0.3458	0.0115	0.3573		1,417.8063	1,417.8063	0.1745	0.1021	1,452.5819

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	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003
Energy	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465
Mobile	1.8255	1.1390	9.5460	0.0139	1.2977	0.0123	1.3100	0.3458	0.0115	0.3572		1,417.2616	1,417.2616	0.1745	0.1021	1,452.0340
Total	1.8445	1.1395	9.5470	0.0139	1.2977	0.0124	1.3100	0.3458	0.0115	0.3573		1,417.8063	1,417.8063	0.1745	0.1021	1,452.5819

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Seal Beach Gas Station - South Coast Air Basin, 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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2022	8/12/2022	5	10	
2	Grading	Grading	8/16/2022	8/17/2022	5	2	
3	Building Construction	Building Construction	8/18/2022	1/4/2023	5	100	
4	Paving	Paving	1/5/2023	1/11/2023	5	5	
5	Architectural Coating	Architectural Coating	1/12/2023	1/18/2023	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,271; Non-Residential Outdoor: 424; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41

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Seal Beach Gas Station - South Coast Air Basin, Summer

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

Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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Seal Beach Gas Station - South Coast Air Basin, Summer

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	0.7094	6.4138	7.4893	0.0120		0.3375	0.3375		0.3225	0.3225		1,147,902.5	1,147,902.5	0.2119		1,153,200.1
Total	0.7094	6.4138	7.4893	0.0120		0.3375	0.3375		0.3225	0.3225		1,147,902.5	1,147,902.5	0.2119		1,153,200.1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0341	0.0241	0.3789	1.0100e-003	0.1118	6.7000e-004	0.1125	0.0296	6.2000e-004	0.0303		102.1145	102.1145	2.6700e-003	2.4400e-003	102.9078
Total	0.0341	0.0241	0.3789	1.0100e-003	0.1118	6.7000e-004	0.1125	0.0296	6.2000e-004	0.0303		102.1145	102.1145	2.6700e-003	2.4400e-003	102.9078

Seal Beach Gas Station - South Coast Air Basin, Summer

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	0.7094	6.4138	7.4893	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147,902.5	1,147,902.5	0.2119		1,153,200.1
Total	0.7094	6.4138	7.4893	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147,902.5	1,147,902.5	0.2119		1,153,200.1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0341	0.0241	0.3789	1.0100e-003	0.1118	6.7000e-004	0.1125	0.0296	6.2000e-004	0.0303		102.1145	102.1145	2.6700e-003	2.4400e-003	102.9078
Total	0.0341	0.0241	0.3789	1.0100e-003	0.1118	6.7000e-004	0.1125	0.0296	6.2000e-004	0.0303		102.1145	102.1145	2.6700e-003	2.4400e-003	102.9078

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	1.0832	12.0046	5.9360	0.0141		0.5173	0.5173		0.4759	0.4759		1,364.8198	1,364.8198	0.4414		1,375.8551
Total	1.0832	12.0046	5.9360	0.0141	5.3119	0.5173	5.8292	2.5686	0.4759	3.0445		1,364.8198	1,364.8198	0.4414		1,375.8551

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0273	0.0193	0.3031	8.1000e-004	0.0894	5.4000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.6916	81.6916	2.1400e-003	1.9500e-003	82.3262
Total	0.0273	0.0193	0.3031	8.1000e-004	0.0894	5.4000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.6916	81.6916	2.1400e-003	1.9500e-003	82.3262

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3904	0.0000	2.3904	1.1559	0.0000	1.1559			0.0000			0.0000
Off-Road	1.0832	12.0046	5.9360	0.0141		0.5173	0.5173		0.4759	0.4759	0.0000	1,364.8198	1,364.8198	0.4414		1,375.8551
Total	1.0832	12.0046	5.9360	0.0141	2.3904	0.5173	2.9077	1.1559	0.4759	1.6318	0.0000	1,364.8198	1,364.8198	0.4414		1,375.8551

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0273	0.0193	0.3031	8.1000e-004	0.0894	5.4000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.6916	81.6916	2.1400e-003	1.9500e-003	82.3262
Total	0.0273	0.0193	0.3031	8.1000e-004	0.0894	5.4000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.6916	81.6916	2.1400e-003	1.9500e-003	82.3262

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.4 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	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422		1,103,939 3	1,103,939 3	0.3570		1,112,865 2
Total	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422		1,103,939 3	1,103,939 3	0.3570		1,112,865 2

Unmitigated Construction Off-Site

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

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

3.4 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	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422	0.0000	1,103,939 3	1,103,939 3	0.3570		1,112,865 2
Total	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422	0.0000	1,103,939 3	1,103,939 3	0.3570		1,112,865 2

Mitigated Construction Off-Site

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

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Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104,608.9	1,104,608.9	0.3573		1,113,540.2
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104,608.9	1,104,608.9	0.3573		1,113,540.2

Unmitigated Construction Off-Site

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

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Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104,608.9	1,104,608.9	0.3573		1,113,540.2
Total	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104,608.9	1,104,608.9	0.3573		1,113,540.2

Mitigated Construction Off-Site

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

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0569	0.0384	0.6276	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		177.8853	177.8853	4.3200e-003	4.0500e-003	179.2014
Total	0.0569	0.0384	0.6276	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		177.8853	177.8853	4.3200e-003	4.0500e-003	179.2014

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0569	0.0384	0.6276	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		177.8853	177.8853	4.3200e-003	4.0500e-003	179.2014
Total	0.0569	0.0384	0.6276	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		177.8853	177.8853	4.3200e-003	4.0500e-003	179.2014

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.5713					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	1.7629	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

Seal Beach Gas Station - South Coast Air Basin, Summer

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

3.6 Architectural Coating - 2023

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	1.5713					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	1.7629	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

Seal Beach Gas Station - South Coast Air Basin, Summer

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	1.8255	1.1390	9.5460	0.0139	1.2977	0.0123	1.3100	0.3458	0.0115	0.3572		1,417,261.6	1,417,261.6	0.1745	0.1021	1,452,034.0
Unmitigated	1.8255	1.1390	9.5460	0.0139	1.2977	0.0123	1.3100	0.3458	0.0115	0.3572		1,417,261.6	1,417,261.6	0.1745	0.1021	1,452,034.0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	1,032.00	1,032.00	1,032.00	615,975	615,975
Total	1,032.00	1,032.00	1,032.00	615,975	615,975

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market with Gas	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	GBUS	UBUS	MCV	SBUS	MH
Convenience Market with Gas Pumps	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

Seal Beach Gas Station - South Coast Air Basin, Summer

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	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005			0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465
NaturalGas Unmitigated	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005			0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465

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						
Convenience Market with Gas Pumps	4.61816	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005			0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465
Total		5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005			0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465

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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 - Natural Gas

Mitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	0.00461818	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465
Total		5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5433	0.5433	1.0000e-005	1.0000e-005	0.5465

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	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003
Unmitigated	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003

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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	2.1500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003
Total	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003

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Seal Beach Gas Station - South Coast Air Basin, 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

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003
Total	0.0190	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3100e-003	1.3100e-003	0.0000		1.4000e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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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
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11.0 Vegetation

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Seal Beach Gas Station - South Coast Air Basin, Annual

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

**Seal Beach Gas Station
South Coast Air Basin, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market with Gas Pumps	6.00	Pump	0.02	847.05	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8	Operational Year	2023		
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Vehicle Trips - trip rates per traffic study

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	322.50	172.00
tblVehicleTrips	SU_TR	322.50	172.00
tblVehicleTrips	WD_TR	322.50	172.00

2.0 Emissions Summary

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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	0.0381	0.3850	0.3922	6.3000e-004	5.9500e-003	0.0203	0.0262	2.7400e-003	0.0187	0.0214	0.0000	55.5311	55.5311	0.0171	1.0000e-005	55.9623
2023	7.0200e-003	0.0268	0.0342	6.0000e-005	4.8000e-004	1.3200e-003	1.8100e-003	1.3000e-004	1.2400e-003	1.3700e-003	0.0000	4.8776	4.8776	1.2200e-003	1.0000e-005	4.9110
Maximum	0.0381	0.3850	0.3922	6.3000e-004	5.9500e-003	0.0203	0.0262	2.7400e-003	0.0187	0.0214	0.0000	55.5311	55.5311	0.0171	1.0000e-005	55.9623

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	0.0381	0.3850	0.3922	6.3000e-004	3.0300e-003	0.0203	0.0233	1.3200e-003	0.0187	0.0200	0.0000	55.5310	55.5310	0.0171	1.0000e-005	55.9622
2023	7.0200e-003	0.0268	0.0342	6.0000e-005	4.8000e-004	1.3200e-003	1.8100e-003	1.3000e-004	1.2400e-003	1.3700e-003	0.0000	4.8776	4.8776	1.2200e-003	1.0000e-005	4.9110
Maximum	0.0381	0.3850	0.3922	6.3000e-004	3.0300e-003	0.0203	0.0233	1.3200e-003	0.0187	0.0200	0.0000	55.5310	55.5310	0.0171	1.0000e-005	55.9622

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	45.34	0.00	10.46	49.48	0.00	6.19	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	8-1-2022	10-31-2022	0.2467	0.2467
2	11-1-2022	1-31-2023	0.2013	0.2013
		Highest	0.2467	0.2467

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	3.4800e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Energy	1.0000e-005	8.0000e-005	7.9000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	1.7619	1.7619	1.4000e-004	2.0000e-005	1.7711
Mobile	0.3055	0.2229	1.8276	2.4500e-003	0.2319	2.2500e-003	0.2341	0.0619	2.0900e-003	0.0640	0.0000	228.6790	228.6790	0.0309	0.0176	232.6960
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	0.0199	0.2207	0.2406	2.0800e-003	5.0000e-005	0.3072
Total	0.3090	0.2229	1.8277	2.4500e-003	0.2319	2.2600e-003	0.2341	0.0619	2.0900e-003	0.0640	0.0199	228.6617	228.6816	0.0331	0.0177	234.7745

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.4600e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.8000e-004
Energy	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	1.7619	1.7619	1.4000e-004	2.0000e-005	1.7711
Mobile	0.3055	0.2229	1.8276	2.4500e-003	0.2319	2.2500e-003	0.2341	0.0619	2.0800e-003	0.0640	0.0000	226.6790	226.6790	0.0309	0.0176	232.6960
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	0.0199	0.2207	0.2406	2.0600e-003	5.0000e-005	0.3072
Total	0.3090	0.2229	1.8277	2.4500e-003	0.2319	2.2500e-003	0.2341	0.0619	2.0900e-003	0.0640	0.0199	228.6617	228.6816	0.0331	0.0177	234.7745

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2022	8/12/2022	5	10	
2	Grading	Grading	8/16/2022	8/17/2022	5	2	
3	Building Construction	Building Construction	8/18/2022	1/4/2023	5	100	

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4	Paving	Paving	1/5/2023	1/11/2023	5	5
5	Architectural Coating	Architectural Coating	1/12/2023	1/18/2023	5	5

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,271; Non-Residential Outdoor: 424; Striped Parking Area: 0
(Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308

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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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4435	0.4435	1.0000e-005	1.0000e-005	0.4474
Total	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4435	0.4435	1.0000e-005	1.0000e-005	0.4474

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	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308

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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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4435	0.4435	1.0000e-005	1.0000e-005	0.4474	
Total	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4435	0.4435	1.0000e-005	1.0000e-005	0.4474	

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Fugitive Dust					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	0.0000
Off-Road	1.0800e-003	0.0120	5.9400e-003	1.0000e-005		5.2000e-004	5.2000e-004		4.8000e-004	4.8000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2482	
Total	1.0800e-003	0.0120	5.9400e-003	1.0000e-005	5.3100e-003	5.2000e-004	5.8300e-003	2.5700e-003	4.8000e-004	3.0500e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2482	

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3.3 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	tans/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.8000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0710	0.0710	0.0000	0.0000	0.0718
Total	3.0000e-005	2.0000e-005	2.8000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0710	0.0710	0.0000	0.0000	0.0716

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	tans/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	1.1600e-003	0.0000	1.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	0.0120	5.9400e-003	1.0000e-005		5.2000e-004	5.2000e-004		4.8000e-004	4.8000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2482
Total	1.0800e-003	0.0120	5.9400e-003	1.0000e-005	2.3900e-003	5.2000e-004	2.9100e-003	1.1600e-003	4.8000e-004	1.6400e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2482

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3.3 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.8000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0710	0.0710	0.0000	0.0000	0.0718
Total	3.0000e-005	2.0000e-005	2.8000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0710	0.0710	0.0000	0.0000	0.0716

3.4 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	0.0333	0.3408	0.3489	5.5000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	48.5716	48.5716	0.0157	0.0000	48.9844
Total	0.0333	0.3408	0.3489	5.5000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	48.5716	48.5716	0.0157	0.0000	48.9844

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3.4 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0333	0.3408	0.3489	5.5000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	48.5716	48.5716	0.0157	0.0000	48.9643
Total	0.0333	0.3408	0.3489	5.5000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	48.5716	48.5716	0.0157	0.0000	48.9643

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3.4 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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5000e-004	9.6300e-003	0.0107	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5031	1.5031	4.9000e-004	0.0000	1.5153
Total	9.5000e-004	9.6300e-003	0.0107	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5031	1.5031	4.9000e-004	0.0000	1.5153

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3.4 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5000e-004	9.6300e-003	0.0107	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5031	1.5031	4.9000e-004	0.0000	1.5153
Total	9.5000e-004	9.6300e-003	0.0107	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5031	1.5031	4.9000e-004	0.0000	1.5153

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3.4 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	Non-Bio- 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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	Non-Bio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3689
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3689

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3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3863	0.3863	1.0000e-005	1.0000e-005	0.3896
Total	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3863	0.3863	1.0000e-005	1.0000e-005	0.3896

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	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669

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3.5 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	NonBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3863	0.3863	1.0000e-005	1.0000e-005	0.3896
Total	1.4000e-004	1.1000e-004	1.4700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3863	0.3863	1.0000e-005	1.0000e-005	0.3896

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NonBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8300e-003					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	4.4100e-003	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

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3.6 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	NonBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							

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	NonBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8300e-003					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	0.6383
Total	4.4100e-003	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	0.6383

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3.6 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	tans/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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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	0.0000

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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	0.3055	0.2229	1.8276	2.4500e-003	0.2319	2.2500e-003	0.2341	0.0619	2.0900e-003	0.0640	0.0000	226.6790	226.6790	0.0309	0.0176	232.6960
Unmitigated	0.3055	0.2229	1.8276	2.4500e-003	0.2319	2.2500e-003	0.2341	0.0619	2.0900e-003	0.0640	0.0000	226.6790	226.6790	0.0309	0.0176	232.6960

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	1,032.00	1,032.00	1,032.00	615,975	615,975
Total	1,032.00	1,032.00	1,032.00	615,975	615,975

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market with Gas	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	QBUS	UBUS	MCY	SBUS	MH
Convenience Market with Gas Pumps	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.6720	1.6720	1.4000e-004	2.0000e-005	1.6806
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.6720	1.6720	1.4000e-004	2.0000e-005	1.6806
NaturalGas Mitigated	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905
NaturalGas Unmitigated	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	1885.63	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905
Total		1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905

Mitigated

	Natural Gas 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					
Convenience Market with Gas Pumps	1885.63	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905
Total		1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0900	0.0900	0.0000	0.0000	0.0905

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	8427.67	1.6720	1.4000e-004	2.0000e-005	1.6906
Total		1.6720	1.4000e-004	2.0000e-005	1.6906

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	8427.67	1.6720	1.4000e-004	2.0000e-005	1.6906
Total		1.6720	1.4000e-004	2.0000e-005	1.6906

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4600e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Unmitigated	3.4600e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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	3.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	3.4600e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	MBio-CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	3.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004	
Total	3.4600e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004	

7.0 Water Detail

7.1 Mitigation Measures Water

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Seal Beach Gas Station - South Coast Air Basin, Annual

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	0.2406	2.0600e-003	5.0000e-005	0.3072
Unmitigated	0.2406	2.0600e-003	5.0000e-005	0.3072

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market with Gas Pumps	0.0627431	0.2406	2.0600e-003	5.0000e-005	0.3072
Total	0.0394554	0.2406	2.0600e-003	5.0000e-005	0.3072

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Seal Beach Gas Station - South Coast Air Basin, Annual

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			
Convenience Market with Gas Pumps	0.0627431 f 0.0384554	0.2406	2.0600e-003	5.0000e-005	0.3072
Total		0.2406	2.0600e-003	5.0000e-005	0.3072

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

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Seal Beach Gas Station - South Coast Air Basin, Annual

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			
	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			
	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
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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

Appendix C – Noise Analysis

NOISE IMPACT ANALYSIS
GAS STATION PROJECT AT THE SOUTHEAST CORNER OF
PACIFIC COAST HIGHWAY AND 13TH STREET
CITY OF SEAL BEACH, CALIFORNIA

Prepared by:

Giroux & Associates

Prepared for:

Hodge & Associates
Attn: Bill Hodge
21061 Canyon Drive
Wildomar, CA 92261

Date:

April 22, 2022

Project No.: P22-015 N

PROJECT DESCRIPTION

The existing on-site gas station contains ten fueling positions and a kiosk. The proposed project will demolish these elements and will construct a gas station with six fueling positions and a 1,200-square-foot convenience store building. Overall, the number of customer trips per day is predicted to decrease.

The closest sensitive use is immediately to the south. There is a single-family one-story home at 324 13th Street. The home fronts 13th Street while the detached garage takes access from the adjacent alley. This residence will be adjacent to the proposed convenience store. The home has an approximate side yard setback of 5.5 feet from the shared property line. The closest convenience store façade will have a 10-foot rear yard setback. An 8-foot block wall will be constructed at the shared property line.

NOISE SETTING

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally considered to be unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The decibel (dBA) scale is used to quantify sound pressure levels. Although decibels are most commonly associated with sound, "dB" is a generic descriptor that is equal to ten times the logarithmic ratio of any physical parameter versus some reference quantity. For sound, the reference level is the faintest sound detectable by a young person with good auditory acuity.

Since the human ear is not equally sensitive to all sound frequencies within the entire auditory spectrum, human response is factored into sound descriptions by weighting sounds within the range of maximum human sensitivity more heavily in a process called "A-weighting," written as dB(A). Any further reference in this discussion to decibels written as "dBA" should be understood to be A-weighted.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called LEQ), or alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Ldn (day-night) or the Community Noise Equivalent Level (CNEL). The CNEL metric has gradually replaced the Ldn factor, but the two descriptors are essentially identical.

For "stationary" noise sources, or noise sources emanating from private property, such as a parking structure, the City does have legal authority to establish noise performance standards designed to not adversely impact adjoining uses. These standards are typically articulated in the jurisdictional Municipal Code. These standards recognize the varying noise sensitivity of both transmitting and receiving land uses. The property line noise performance standards are normally structured according to land use and time-of-day.

PLANNING STANDARDS

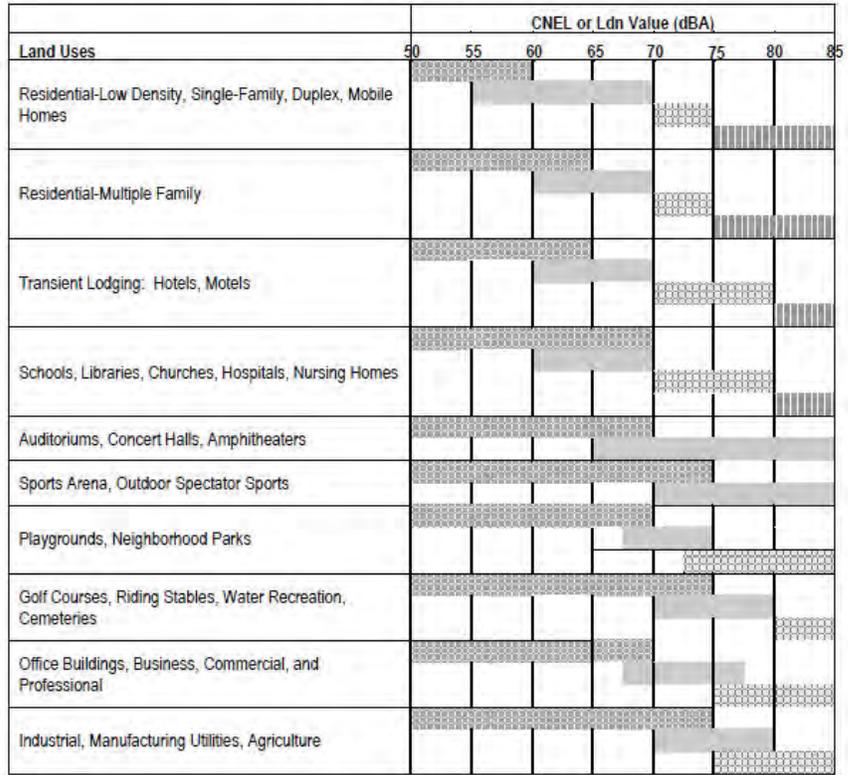
The City of Seal Beach has established guidelines for acceptable community noise levels that are based upon the CNEL rating scale to ensure that noise exposure is considered in any development. CNEL-based standards apply to noise sources whose noise generation is preempted from local control (such as from on-road vehicles, trains, airplanes, etc.) and are used to make land use decisions as to the suitability of a given site for its intended use. These CNEL-based standards are articulated in the Noise Element of the General Plan.

Figure 1 shows the noise compatibility guidelines for various land uses. These guidelines would apply in usable outdoor space such as patios, yards, spas, etc. The guidelines indicate that an exterior noise level of 65 dB CNEL is considered to be a “normally acceptable” noise level for multi-family homes. Exterior noise levels up to 70 dB CNEL are typically considered “conditionally acceptable”, and residential construction should only occur after a detailed analysis of the noise reduction requirements is made and potential noise attenuation features are included in the project design. Exterior noise attenuation features include, but are not limited to, setbacks to place structures outside the conditionally acceptable noise contour, orienting structures so no windows open to the noise source, and /or installing noise barriers such as berms or solid walls.

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) for multiple family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, included single-family dwelling units. Since normal noise attenuation within residential structures with closed windows is 25-30 dB, an exterior noise exposure of 65-75 dB CNEL allows the interior standard to be met without any specialized structural attenuation (dual paned windows, etc.), but with closed windows and fresh air supply systems such as air conditioning in order to maintain a comfortable living environment.

According to section 7.15.025 in the municipal code, the City of Seal Beach limits construction activities to between the hours of 7:00 a.m. and 8:00 p.m., Mondays through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8 :00 p.m. on Sundays or city-observed federal holidays. Construction activities that occur during allowable hours are exempt from compliance with numerical noise standards.

**Figure 1 Noise Compatibility Guidelines
(Seal Beach General Plan)**



Legend:

-  **Normally Acceptable:** Specified land use as satisfactory based upon the assumption that any buildings involved are of normal environmental construction, without any special noise insulation requirements.
-  **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.
-  **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor area must be shielded.
-  **Clearly Unacceptable:** New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

NOISE ORDINANCE STANDARDS

Planning standards generally apply to land use decisions made in response to noise sources pre-empted from local control such as motor vehicles, aircraft, etc. Noises from “stationary” sources are amenable to regulation through the Municipal Code. Chapter 7.15 of the City’s code governs noise from one property crossing the property line of an adjacent property. The commercial noise standard is 65 dBA day or night. The residential noise standard is 55 dBA by day and 50 dBA at night. Noise standards are not to be exceeded more than 30 minutes in any hour. Deviations from the baseline are allowed for noise “spikes” for progressively shorter periods for more substantial deviations up to a maximum of 20 dBA.

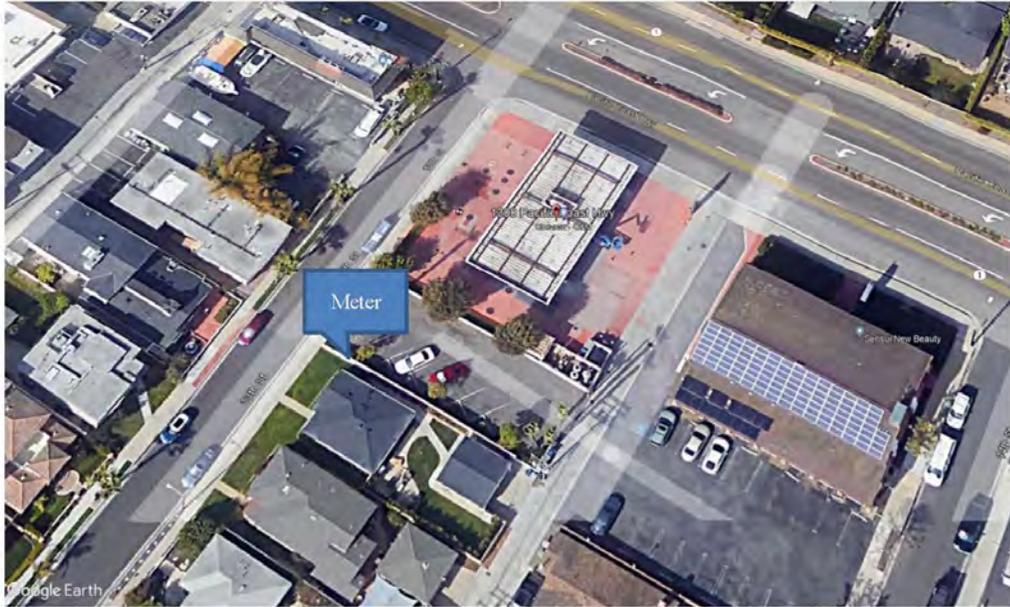
In areas where residential uses abut commercial or recreational activities, noise impacts may be perceived as intrusive, especially during noise sensitive quiet hours. There are commercial/residential interfaces at the project-site. Because of the small lot sizes in much of Seal Beach, mechanical equipment on one parcel may be located very close to the property line of an adjacent residential parcel. Motor hum and on/off cycling noise can be judged as intrusive. In recognition of this occasional conflict, a separate section of the Municipal Code directly address “Heating, Venting and Air Conditioning Equipment” (7.15.035). Modern equipment is typically quieter and less prone to causing problems. Compliance with the standards in this section of the code is nevertheless an important consideration in preventing possible noise nuisance.

BASELINE NOISE LEVELS

A noise study was conducted by Giroux & Associates on Thursday, February 10, 2022, with short term noise readings at the project site. Short term (15-minute) noise measurements were conducted on the partial wall at the shared property line with the residence to the south. The location of the meter is shown in Figure 1. The location was chosen to be representative of the current noise environment at the closest and therefore most impacted sensitive use. For accuracy, two measurements were made at the same location.

The observed Leqs for the two measurements were 65 and 64 dBA. The maximum noise levels were 81 dBA and 72 dBA. Observed minimums for the sites were 48 and 44 dBA. Overall, it was evident that the area is subject to a lot of traffic on PCH which generates a good deal of noise. During the measurements there were car doors opening and closing at the existing pumps, but these activities were rarely detectable unless there was a short period of relative quiet from fewer cars due to traffic control. Also significant were the cars parked on both sides of 13th Street. The entire street was full of parked cars on both sides of the roadway, with frequent comings and goings.

Figure 2
Noise Meter Location



NOISE IMPACTS

IMPACT SIGNIFICANCE CRITERIA

Noise impacts are considered significant if they result in:

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b. Generation of excessive groundborne vibration or groundborne noise levels.
- c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels.

Several characteristic noise sources are typically identified with land use intensification such as that proposed for the development of the proposed Project. Construction activities, especially heavy equipment, will create short-term noise increases near the site. Such impacts would be important for possible noise-sensitive receptors. Additionally, the Project analysis examines operational noise on adjacent receptors. There are no airports within proximity to the Project.

The term "substantial increase" is not defined by any responsible agency. The limits of perceptibility by ambient grade instrumentation (sound meters) or by humans in a laboratory environment is around 1.5 dB. Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a 3 dB difference. A threshold of 3 dB is commonly used to define "substantial increase." An increase of +3 dBA CNEL in traffic noise would be consistent a significant impact.

CONSTRUCTION NOISE IMPACTS

The noise impact assessment evaluates short-term (temporary) impacts associated with Project construction. For construction noise, the potential for impacts is assessed by considering several factors, including the proximity of construction-related noise sources to sensitive receptors, typical noise levels associated with construction equipment, the potential for construction noise levels to interfere with adjacent activities, and whether proposed activities would occur outside the construction time limits specified in the Seal Beach Municipal Code.

The City of Seal Beach limits construction activities to between hours of 7:00 a.m. and 8:00 p.m. Mondays through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8 :00 p.m. on Sundays or city-observed federal holidays. Construction activities that occur during allowable hours are exempt from compliance with numerical noise standards.

Construction noise levels will vary at any given receptor and are dependent on the construction phase, equipment type, duration of use, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. The closest sensitive use is the single-story structure to the south with a 5.5-foot setback to the shared property line and a 15.5-foot setback to the closest façade of the convenience store. Most demolition will occur at the current pump area with a setback distance of approximately 70-feet. An 8-foot block wall will be constructed at the shared property line and will help mitigate off-site noise.

The exact construction schedule for the proposed development is not known at this time. Construction equipment such as bulldozers, backhoes, loaders, and assorted other hand tools and professional grade equipment would likely be used.

In 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model that includes a national database of construction equipment reference noise emissions levels. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power during a construction phase. The usage factor is a key input variable that is used to calculate the average Leq noise levels.

Table 1 identifies highest (Lmax) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptor and the extent of equipment usage (usage factor), which is represented as Leq. The table is organized by construction activity and equipment associated with each activity.

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (Leq) at distance D between the source and receiver (dBA):

$$Leq = L_{max} @ 50' - 20 \log (D/50') + 10 \log (U.F.\%/100) - I.L.(bar)$$

Where:

Lmax @ 50' is the published reference noise level at 50 feet

U.F.% is the usage factor for full power operation per hour

I.L.(bar) is the insertion loss for intervening barriers

Table 1
Construction Equipment Noise Levels at 50-ft Reference Distance

Phase Name	Equipment	Usage Factor ¹	Hours of Operation ²	Measured Noise @ 50 feet (dB)	Cumulative Noise Level @ 50 feet (dB)
Demolition	Dozer	40%	3.2	82	78
	Concrete Saw	20%	1.6	90	84
	Loader/Backhoe	37%	3.0	78	74
Grading	Grader	40%	3.2	85	81
	Dozer	40%	3.2	82	78
	Loader/Backhoe	37%	3.0	78	74
Building Construction	Forklift	20%	1.6	75	68
	Loader/Backhoe	37%	3.0	78	74
	Crane	16%	1.3	81	73
	Welder	46%	3.7	74	71
Paving	Paver	50%	4.0	77	74
	Paving Equip	40%	3.2	76	72
	Roller	38%	3.0	80	76

Source: FHWA's Roadway Construction Noise Model, 2006

1. Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
2. Represents the actual hours of peak construction equipment activity out of a typical 8-hour day.

The highest noise levels generated by Project construction activities would typically range from about 74 to 90 dBA Lmax at a distance of 50 feet from the noise source. Adjusted for usage typical hourly average construction generated noise levels are about 68 dBA to 84 dBA Leq measured at a reference distance of 50 feet from the site. Construction generated noise levels drop off or increase at a rate of

about 6 dBA per doubling/halving of distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors. The potential for construction-related noise to adversely affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors.

On-Site Demolition

Demolition activities are predicted to require use of the noisiest construction equipment. The probable equipment fleet is comprised of backhoe, dozer, and a concrete saw. Demolition debris will be hauled off site. The existing pumps area is minimally 70 feet from the closest sensitive use. At 70 feet the noisiest piece of construction equipment, a concrete saw, could generate noise levels of 81 dBA Leq. Other demolition equipment such as a loader/backhoe will only generate noise levels of about 75 dBA which will be much quieter. Demolition is estimated to require 10 days.

On-Site Grading

The site is flat. Grading is anticipated to require 2 days. After demolition, grading will generate the most noise. The closest off-site structures only have a 5.5-foot distance separation from the Project property line. Since the site is small, most grading will be done with smaller hand tools such as loader/backhoe, not a dozer. The loader/backhoe will not operate directly at the property line for any length of time. Interior noise levels would be approximately 25 dBA lower assuming closed windows. Although noise levels would be noticeable, they would be temporary and will occur only when heavy equipment operates at the closest property line. The site is flat and grading is only anticipated to require two days.

Building Construction

Construction activities would require smaller, less noisy equipment than demolition and grading but would require a longer duration. However, the small convenience store is the only planned structure. The closest on-site to off-site sensitive use is 15.5 feet from the closest building facade. At the closest residence construction noise levels could be as high as 84 dBA Leq without consideration of the block wall. With closed windows, the noise interior noise level would decrease to 59 dBA Leq. The planned 8-foot wall would reduce noise levels by approximately -5 dBA.

Paving

There is minimal paving along the southern property line which is closest to off-site residential use.

Summary

Construction noise is unavoidable though noise would be temporary and limited to the duration of the construction in any one location and different types of construction equipment would be used throughout the construction process. These temporary impacts will cease once the Project is completed. Complete elimination of construction activity noise is technically infeasible. However, incorporation of the best available noise reduction methods will minimize impacts.

Associated noise can be mitigated by required compliance with all applicable regulatory measures. Compliance with the following measures is recommended:

- Construction activities are limited to the hours of 7:00 a.m. and 8:00 p.m., Mondays through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8:00 p.m. on Sundays or city-observed federal holidays.
- Construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers.
- Material stockpiles and/or vehicle staging areas shall be located as far as practical from dwelling units.

Compliance with these regulatory measures will minimize any adverse construction noise impact potential. No mitigation measures are necessary.

CONSTRUCTION ACTIVITY VIBRATION

Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernible movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration related problems generally occur due to resonances in the structural components of a building because structures amplify groundborne vibration. Within the “soft” sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction Projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

A vibration descriptor commonly used to determine structural damage is the peak particle velocity (ppv) which is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in in/sec. The range of such vibration is as follows in Table 2:

Table 2
Human Response To Transient Vibration

Average Human Response	ppv (in/sec)
Severe	2.00
Strongly perceptible	0.90
Distinctly perceptible	0.24
Barely perceptible	0.03

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2013.

According to Caltrans, the threshold for structural vibration damage for modern structures is 0.5 in/sec for intermittent sources, which include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures from intermittent construction or maintenance activities for residential buildings in good repair with gypsum board walls to be 0.4–0.5 in/sec as shown in Table 3. Below this level there is virtually no risk of building damage.

Table 3
FTA and Caltrans Guideline Vibration Damage Potential Threshold Criteria

Building Type	PPV (in/sec)
FTA Criteria	
Reinforced concrete, steel or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12
Caltrans Criteria	
Modern industrial/commercial buildings	0.5
New residential structures	0.5
Older residential structures	0.3
Historic old buildings	0.25
Fragile Buildings	0.1
Extremely fragile ruins, ancient monuments	0.08

The predicted vibration levels generated by construction equipment anticipated for use are shown below in Table 4.

Table 4
Estimated Vibration Levels During Project Construction

Equipment	PPV at 10 ft (in/sec)	PPV at 15 ft (in/sec)	PPV at 25 ft (in/sec)	PPV at 40 ft (in/sec)	PPV at 50 ft (in/sec)
Large Bulldozer	0.352	0.191	0.089	0.044	0.031
Loaded trucks	0.300	0.163	0.076	0.037	0.027
Jackhammer	0.138	0.075	0.035	0.017	0.012
Small Bulldozer	0.012	0.006	0.003	0.001	<0.001

Source: FHWA Transit Noise and Vibration Impact Assessment

The calculation to determine PPV at a given distance is:

$$PPV_{\text{distance}} = PPV_{\text{ref}} * (25/D)^{1.5}$$

Where:

PPV_{distance} = the peak particle velocity in inches/second of the equipment adjusted for distance,

PPV_{ref} = the reference vibration level in inches/second at 25 feet, and

D = the distance from the equipment to the receiver.

Typically, equipment will operate at much greater setbacks than the distances shown above. As seen on Table 6, even at a 10-foot setback the vibration levels are below levels that could create structural damage (i.e., 0.4-0.5 in/sec). However, if heavy grading equipment such as a bulldozer were to be operated 10-feet from the shared property-line, vibration levels could exceed the level of annoyance. There, the following measure would ensure that vibration would not be annoying or cause structural damage to adjacent residences:

- Heavy equipment such as graders and dozers shall maintain a minimal 25 foot setback distance from the southern site perimeter. Any grading within 25-feet shall be done with smaller equipment such as a loader/backhoe or bobcat.

SITE OPERATIONAL NOISE

The Project proposes less pumps than currently installed. There are fewer associated trips. The convenience store structure would act as a noise wall and would acoustically shield the residences to the south, as will the 8-foot block wall. Convenience store customers will park at the pumps or in front of the store. There is a 10-foot rear setback from the convenience store to the closest at the southern perimeter that will be landscaped. The trash dumpster is along the eastern perimeter. On-site observations showed that car activity associated with pumping gas (doors opening and closing) was generally not audible over background noise including traffic from Pacific Coast Highway. Operational noise will be less than significant, and lower than the existing on-site use.

CONCLUSION

Construction noise will be less than significant with the inclusion of the following measures:

- Allowable hours of construction are 7:00 a.m. and 8:00 p.m., Mondays through Friday, and the hours of 8:00 a.m. and 8:00 p.m. on Saturday and between 9:00 a.m. and 8 :00 p.m. on Sundays or city-observed federal holidays.
- Construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers.
- Material stockpiles and/or vehicle staging areas shall be located as far as practical from dwelling units.

The following measure is required to ensure acceptable vibration levels at adjacent receptors:

- Heavy equipment such as graders and dozers shall maintain a minimal 25 feet setback distance from the shared residential property line to the south. Any grading shall be done with smaller equipment such as a loader/backhoe or bobcat.

The proposed 8-foot solid wall at the southern end of the site will assist in blocking possible noise intrusion at the nearest sensitive uses.

Project operational noise is anticipated to be less than existing noise levels due to a reduction in the number of pumps and associated trips. Traffic from PCH was observed to dominate the noise environment with minimal noise (car doors opening and closing) audible beyond the gas station boundary. The proposed convenience store structure will act as a noise barrier between the gas pumps and adjacent sensitive uses.

Customers for the convenience store will park at the pumps or in front of the store. The area at the store rear, between the store and the sensitive uses (a 10-foot setback) will be landscaped.

Appendix D – Trip Generation Memorandum



December 12, 2021

Karl Huy
Travis Companies, Inc.
4430 E. Miraloma Avenue, Suite F
Anaheim, California 92807

Subject: *Trip Generation Memorandum for the Gas Station Project at the Southeast Corner of Pacific Coast Highway and 13th Street in the City of Seal Beach*

Dear Mr. Huy:

This memorandum has been prepared to evaluate the trip generating characteristics of a proposed Gasoline/Service Station, compared to an existing Gasoline/Service Station at 1300 Pacific Coast Highway in the City of Seal Beach. The proposed project would demolish the existing Gasoline/Service Station and construct a new gas station development with fewer fueling positions and an increased convenience store building area.

PROJECT DESCRIPTION

The project site is located at the southeast corner of Pacific Coast Highway and 13th Street. There is an existing gas station with ten fueling positions and a kiosk on the project site. The proposed project will demolish these elements and will construct a gas station with six fueling positions and a 1,200-square-foot convenience store building. The project, in its regional setting, is shown on **Figure 1**. The existing site layout is shown on **Figure 2**. The proposed site plan is shown on **Figure 3**.

TRIP GENERATION ASSESSMENT

A trip generation calculation has been conducted for the proposed site characteristics, taking into consideration any credit for the previous land use on the parcel. The trips expected to be generated by the project were calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). Trip rates are based on the following ITE Land Use:

- Gasoline/Service Station (Land Use 944)

The Gasoline/Service Station Land Use is applicable for the existing and proposed situations. Per the description of Land Use 944 (LU 944) established within the ITE Trip Generation Manual, LU 944 includes gasoline/service stations where the primary business is the fueling of motor vehicles with the inclusion of buildings less than 2,000 gross square feet for convenience purchases. In both the existing and proposed conditions, the building areas for this site are under the 2,000-square-foot threshold.

It is recognized that not all inbound and outbound trips to the proposed project will be "new" trips on the roadway system in the vicinity of the proposed project. Some trips to the project site will consist of "pass-by" trips -- motorists who are already traveling on the surrounding roadways from one place

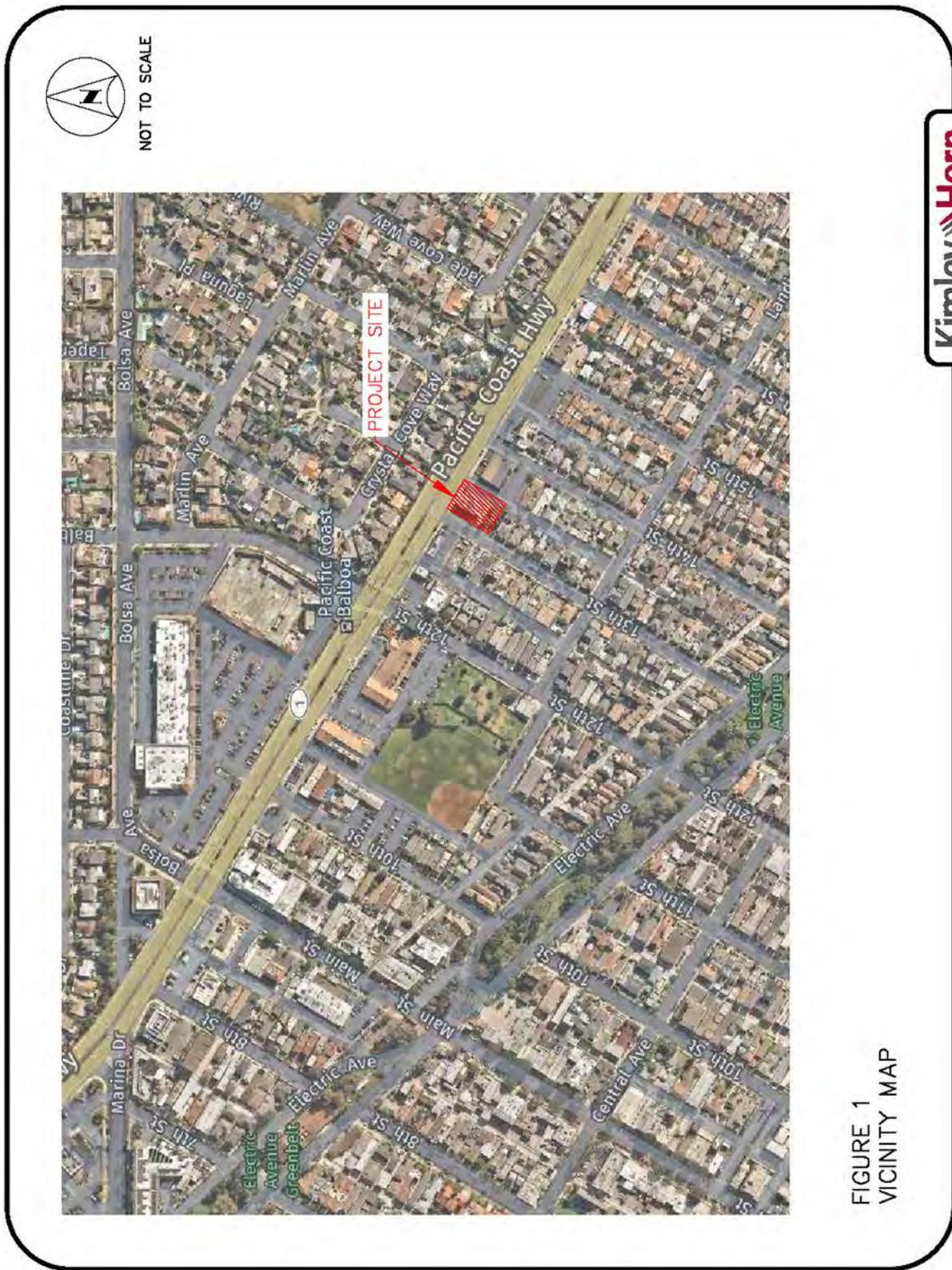


FIGURE 1
VICINITY MAP

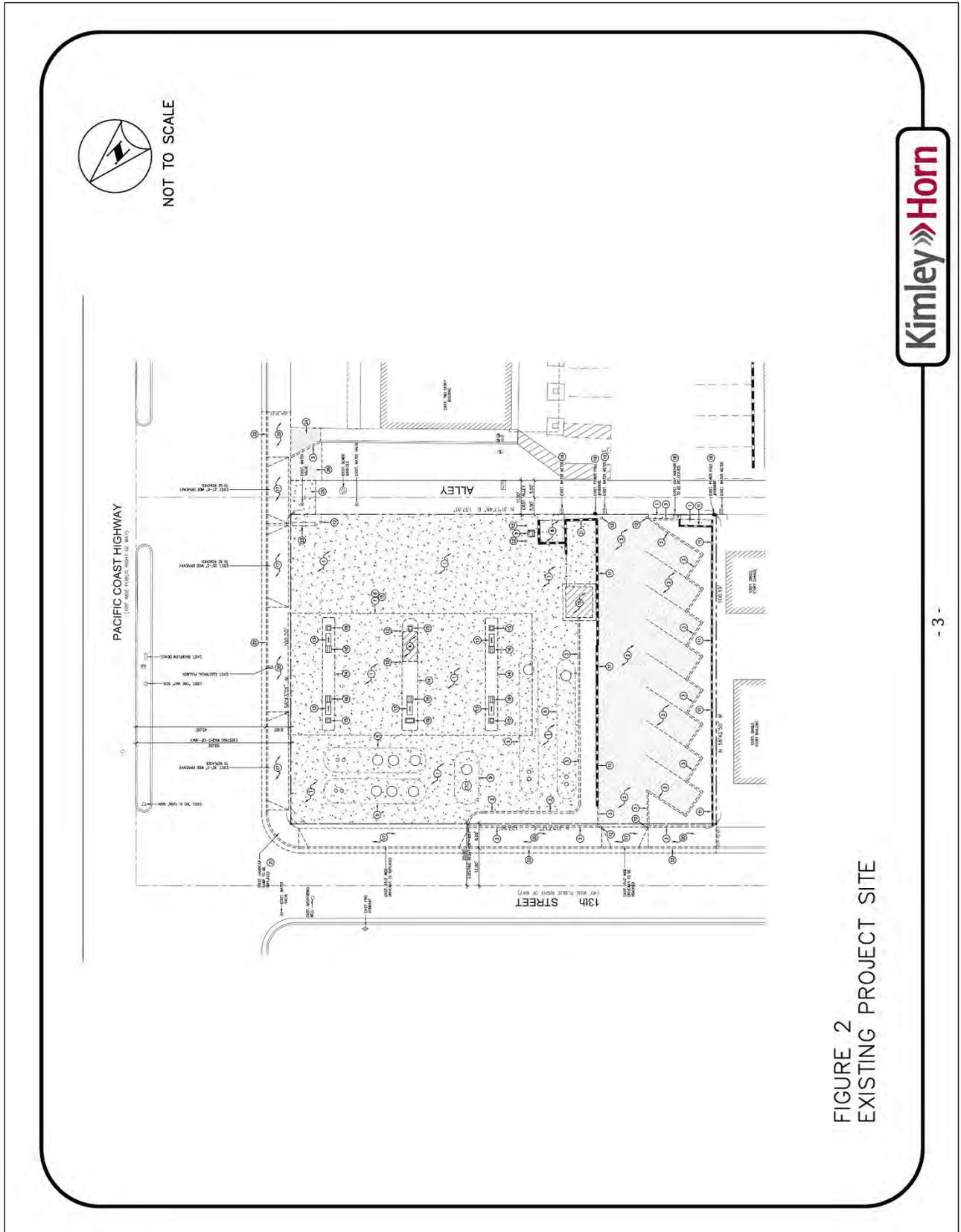
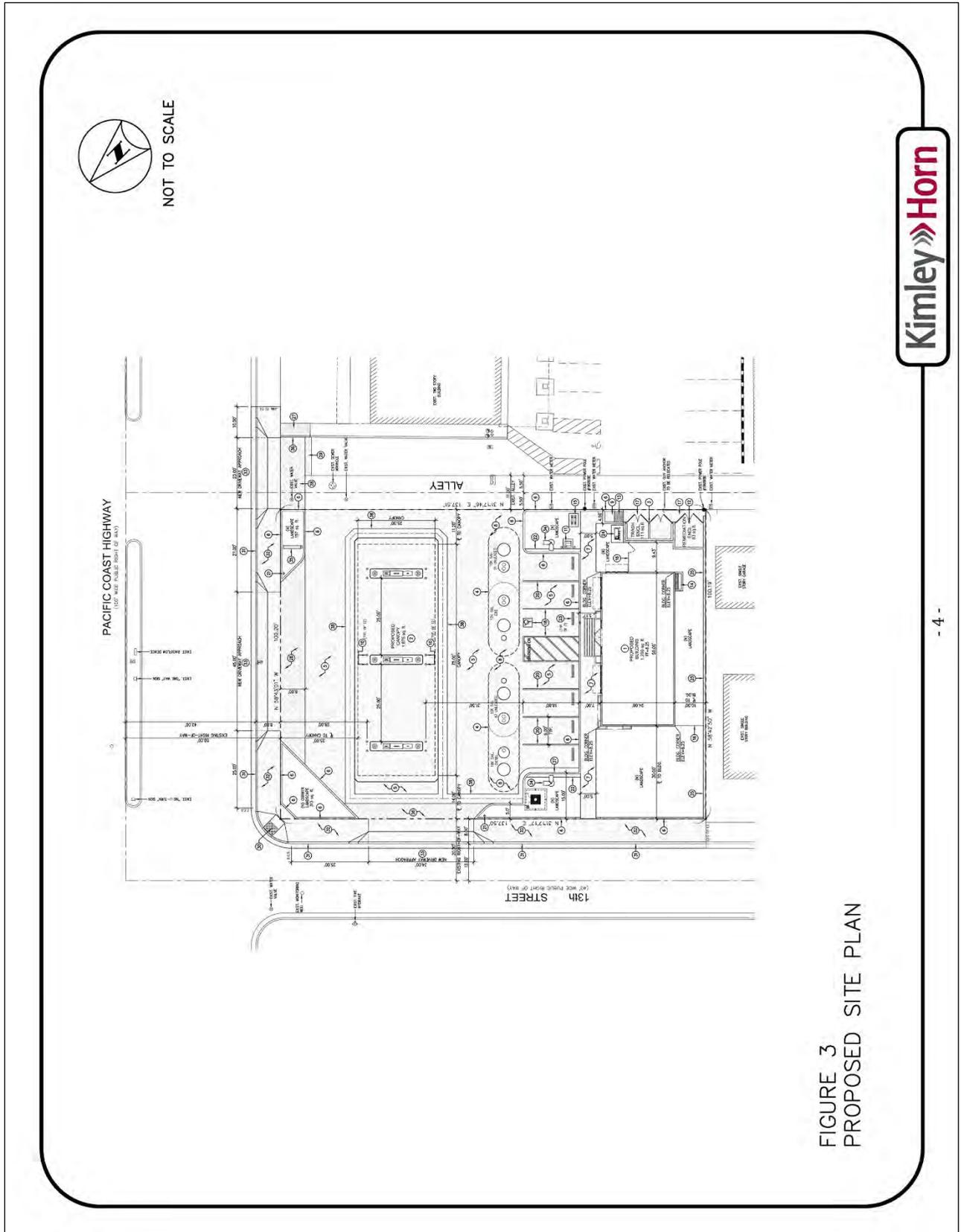


FIGURE 2
EXISTING PROJECT SITE





to another. Common pass-by trips for the Project would be individuals who stop at the project site on the way to or from work or school.

Pass-by rates were determined per the ITE Trip Generation Handbook, 3rd Edition. A pass-by rate of 58% for the morning peak hour and 42% for the evening peak hour were applied to the Gasoline/Service Station Land Use.

TABLE 1 SUMMARY OF PROJECT TRIP GENERATION									
Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Gasoline/Service Station	944	Fueling Position	172.01	5,140	5,140	10.28	6,955	6,955	13.91
Trip Generation Estimates									
Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Existing Use									
Gasoline/Service Station	10	Fueling Position	1,720	51	51	102	70	70	140
Pass-by Trips (58% AM, 42% PM) ²			-	-30	-30	-60	-29	-29	-58
Total Existing Trips			1,720	21	21	42	41	41	82
Proposed Use									
Gasoline/Service Station	6	Fueling Position	1,032	31	31	62	42	42	84
Pass-by Trips (58% AM, 42% PM) ²			-	-18	-18	-36	-18	-18	-36
Total Proposed Project Trips			1,032	13	13	26	24	24	48
Net Difference (Proposed Minus Existing)			-688	-8	-8	-16	-17	-17	-34
¹ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> , 11th Edition									
² Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Handbook</u> , 3rd Edition									

The ITE trip generation rates and resulting trip generation for the existing and proposed uses are summarized on **Table 1**.

- It is estimated that the previous gas station land use generates approximately 1,720 trips per day, with 102 trips (51 inbound and 51 outbound) in the morning peak hour, and 140 trips (70 inbound and 70 outbound) in the evening peak hour.
- It is estimated that the new Gasoline/Service Station would generate approximately 1,032 trips per day, with 62 trips in the morning peak hour (31 inbound and 31 outbound) and 84 trips (42 inbound and 42 outbound) in the evening peak hour.



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- When pass-by reductions are taken into account, the proposed trip generation for the new Gasoline/Service would be commensurately less than the unadjusted trip generation rates. With pass-by reductions, it is estimated that the proposed Gasoline/Service Station would generate approximately 1,032 trips per day, with 26 trips in the morning peak hour (13 inbound and 13 outbound) and 48 trips (24 inbound and 24 outbound) in the evening peak hour.
- Comparing the previous land use trip generation to the proposed land use trips, the proposed project is estimated to generate 688 fewer trips to the roadway network on a daily basis, with 16 fewer trips in the morning peak hour, and 34 fewer trips in the evening peak hour.