June 2015 | **MND and Initial Study**

CASIMIR MIDDLE SCHOOL GYMNASIUM

Torrance Unified School District

PLACEWORKS

TORRANCE UNIFIED SCHOOL DISTRICT

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MITIGATED NEGATIVE DECLARATION

Pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code (PRC) Sections 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations (CCR) Sections 15000 et seq.), the Torrance Unified School District has completed this Mitigated Negative Declaration (MND) for the project described below based on the assessment presented in the attached Initial Study.

LEAD AGENCY & PROJECT PROPONENT: Torrance Unified School District

PROJECT TITLE: Casimir Middle School Gymnasium Project

PROJECT LOCATION: The project site is near the north-central perimeter of Casimir Middle School at 17220 Casimir Avenue in the City of Torrance.

PROJECT DESCRIPTION: The proposed project is the construction and operation of a new gymnasium on Casimir Middle School. The facility would be approximately 7,500 square feet, with pull-out bleachers for seating up to 300 spectators. The proposed facility would not significantly change the existing operations of the school, which would continue to operate under the current schedule. The gymnasium would supplement the school's physical education program with new locker facilities and an indoor multiuse basketball and volleyball court. Although no joint-use programs are proposed for the gymnasium, the facility would be available for community use through the Civic Center Act.

EXISTING CONDITIONS: Casimir Middle School operates on a traditional calendar, generally starting near Labor Day and ending the middle of June. Typical school hours are between 8:00 AM and 3:00 PM; after-school clubs and enrichment programs are offered until 6:00 PM. Other than the standard school operation hours, the school also has nighttime school events, such as Back to School Night, Open House, school performances, talent shows, and awards ceremonies. The performances and assemblies are currently held in the school's multipurpose room. When not in use by the school and District, the CMS school facilities are available for community use through the Civic Center Act.

The project site is 0.35 acre and currently a turf playfield with no above-grade structures except for three pull-up bars. Separate from the proposed project, the District is initiating interior building improvements at Casimir Middle School in the fall of 2015. Construction laydown for the classroom modernization improvements is in the school's southwest corner parking lot.

DOCUMENT AVAILABILITY: The MND and supporting Initial Study for the Casimir Middle School Gymnasium Project are available for review at:

- Torrance Unified School District Administration, 2335 Plaza Del Amo, Torrance, CA 90501
- North Torrance Library, 3604 Artesia Boulevard, Torrance, CA 90504
- District website: http://www.tusd.org/

SUMMARY OF IMPACTS: The attached Initial Study was prepared to identify the potential effects on the environment from the construction and operation of the proposed Casimir Middle School Gymnasium Project and to evaluate the significance of those effects.

Based on the environmental analysis, the proposed project would have no impacts or less-than-significant environmental impacts on the following 16 resources analyzed in the Initial Study:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Geology and Soil
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Noise
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Project development would have potentially significant impacts on one resource:

- Cultural Resources

A mitigation measure has been incorporated into the project to effectively minimize all of the potentially significant environmental impacts. Compliance with the mitigation measure would avoid or reduce potentially significant impacts to less than significant levels.

CUL-1 Prior to the beginning of ground disturbances, Torrance Unified School District shall retain a qualified archaeologist/paleontologist to monitor ground-disturbing activities that occur five feet below ground surface. The archaeologist shall meet the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register 44738-39). Before ground-disturbing activities begin, the archaeologist/ paleontologist shall prepare an archaeological monitoring plan consistent with CEQA Guidelines section 15064.5, specifying the frequency, duration, and methods of monitoring. The archaeologist/paleontologist shall train construction workers regarding types of archaeological and paleontological resources that could be identified in site soils. The archaeologist/paleontologist shall have the authority to stop grading or construction work within 25 feet of the site of any discovery of potential historical, archaeological, or paleontological resources until a find can be recovered and the significance of the find identified per CEQA. All resources recovered shall be curated at the facilities of the Natural History Museum of Los Angeles County.

June 2015 | MND and Initial Study

Casimir Middle School Gymnasium

Torrance Unified School District

Prepared for:

Torrance Unified School District
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PLACEWORKS

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1. Introduction

Torrance Unified School District (TUSD) proposes to construct a new gymnasium on the Casimir Middle School (CMS) campus (Proposed Project).

The proposed project is required to undergo an environmental review pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code §§ 21000 et seq.). This initial study evaluates the potential environmental consequences of the project.

1.1 ENVIRONMENTAL PROCESS

The completion of the environmental compliance process is governed by two principal regulations: CEQA and the State CEQA Guidelines (California Code of Regulations §§ 15000 et seq.). CEQA was enacted in 1970 by the California Legislature to disclose to decision makers and the public the significant environmental effects of proposed activities and to identify ways to avoid or reduce the environmental effects through feasible alternatives or mitigation measures. Compliance with CEQA applies to California government agencies at all levels: local, regional, and state agencies, boards, commissions, and special districts (such as school districts and water districts). TUSD is the lead agency for the proposed project and is therefore required to analyze the potential environmental effects associated with the project.

Public Resources Code Section 21080(a) states that analysis of a project's environmental impact is required for any "discretionary projects proposed to be carried out or approved by public agencies…." In this case, TUSD has determined that an initial study is required to determine whether there is substantial evidence that implementation of the project would result in environmental impacts. An initial study is a preliminary environmental analysis to determine whether an environmental impact report (EIR), a mitigated negative declaration (MND), or a negative declaration (ND) is required for a project (CEQA Guidelines Section 15063). An initial study must have a project description; a description of the environmental setting; an identification of environmental effects by checklist or other similar form; an explanation of environmental effects; a discussion of mitigation for significant environmental effects; an evaluation of the project's consistency with existing, applicable land use controls; the names of persons who prepared the study; and identification of data sources (CEQA Guidelines § 15063(d)).

When an initial study identifies substantial evidence of the potential for significant environmental impacts, the lead agency must prepare an EIR (CEQA Guidelines § 15064); however, if all impacts can be mitigated to a less than significant level, the lead agency can prepare an MND that incorporates mitigation measures into the project (CEQA Guidelines § 15070).

1.2 MITIGATED NEGATIVE DECLARATION AND SUPPORTING INITIAL STUDY

This initial study has been prepared to determine if the proposed project will have a significant impact on the environment. The purpose of this initial study is to 1) provide the lead agency with information to use as the basis for deciding the proper type of CEQA document to prepare; 2) enable the lead agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a negative declaration; 3) assist the preparation of an EIR, if one is required; 4) facilitate environmental assessment early in the design of a project; (5) provide documentation of the factual basis for the findings in an MND or ND; (6) eliminate unnecessary EIRs; and (7) determine if the project is covered under a previously prepared EIR (CEQA Guidelines § 15063).

Based on the findings in this initial study, TUSD has determined that an MND is the appropriate level of environmental documentation for the proposed project. The mitigation measures in this MND are designed to reduce or eliminate the potentially significant environmental impacts described herein. Mitigation measures are structured in accordance with the criteria in Section 15370 of the State CEQA Guidelines.

1.3 IMPACT TERMINOLOGY

The following terminology is used to describe the level of significance of impacts.

- A finding of ***no impact*** is appropriate if the analysis concludes that the project would not affect the particular topic area in any way.

- An impact is considered ***less than significant*** if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.

- An impact is considered ***less than significant with mitigation incorporated*** if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments or other enforceable mitigation measures.

- An impact is considered ***potentially significant*** if the analysis concludes that it could have a substantial adverse effect on the environment. If any impact is identified as potentially significant, an EIR would need to be prepared.

1.4 ORGANIZATION OF THE MND

The content and format of this report are designed to meet the requirements of CEQA. The conclusions in this initial study are that the proposed project, as mitigated, would have no significant impacts. This initial study contains the following sections:

- **Section 1,** ***Introduction***, identifies the purpose and scope of the initial study and the terminology used.

- **Section 2,** ***Environmental Setting,*** describes the existing conditions, surrounding land uses, general plan designations, and existing zoning at the project site and surrounding area.
- **Section 3,** ***Project Description,*** identifies the location, background, and describes the proposed project in detail.
- **Section 4,** ***Environmental Checklist,*** presents the CEQA checklist and the impact significance finding for each resource topic.
- **Section 5,** ***Environmental Analysis,*** provides an evaluation of the impact categories and a response to questions contained in the CEQA checklist and identifies mitigation measures, if applicable.
- **Section 6,** ***References,*** identifies all references and individuals cited in this initial study.
- **Section 7,** ***List of Preparers,*** identifies the individuals who prepared the initial study and technical studies and their areas of technical specialty.
- **Appendices** present data supporting the analysis or contents of this initial study.
  - Appendix A: Air Quality and Greenhouse Gas Background and Modeling Data
  - Appendix B: Noise Background and Modeling Data

1.5 PUBLIC REVIEW OF THE MND

This MND is being circulated for public review for a period of 30 days, commencing June 30, 2015, and ending July 29, 2015. It is being distributed directly to agencies, organizations, and interested groups and persons for comment during the formal review period. The MND is available for review at the following locations:

- http://www.tusd.org/
- TUSD Administration: 2335 Plaza Del Amo, Torrance, CA 90501
- North Torrance Library: 3604 Artesia Boulevard, Torrance, CA 90504

Public participation is an important part of the CEQA process. TUSD is requesting public input on the proposed project. Comments from the community and interested parties are encouraged and will be accepted via mail and e-mail until the end of the public review period on July 29, 2015. These comments will be considered by the TUSD Board of Education prior to its decision regarding the adoption of this initial study and MND and approval of the proposed project, slated for the regular board meeting on September 15, 2015, at 7:30 PM or soon thereafter at the TUSD Board Room in the Educational Materials Building (EMB) at 2336 Plaza del Amo, Torrance. Please contact TUSD at 310.972.6500 to confirm the date and time.

1. Introduction

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2. Environmental Setting

2.1 PROJECT LOCATION

The project site is proposed on turf playfield near the north-central perimeter of Casimir Middle School (CMS) at 17220 Casimir Avenue, Torrance, Los Angeles County, California (Assessor's Parcel Number 4093-027-900). CMS has two street frontages: Casimir Avenue to the west and Spinning Avenue to the east. CMS is in the northeastern part of the city near Artesia Boulevard. Regional access to CMS is provided by Interstate 405, which is approximately one-half mile southwest of CMS. Figure 1, *Regional Location*, and Figure 2, *Local Vicinity*, show the school from regional and local perspectives. As shown in Figure 1, the City of Torrance is surrounded by the cities of Gardena, Lawndale, Redondo Beach, Lomita, Palos Verdes Estates, Rolling Hills Estates, and Los Angeles.

2.2 ENVIRONMENTAL SETTING

2.2.1 Existing Land Use

2.2.1.1 CASIMIR MIDDLE SCHOOL

CMS is a traditional school that serves students in grades 6 through 8. It has a maximum enrollment capacity of 694 seats. During the 2014–15 school year, CMS had an enrollment of 697 students, and the highest recorded enrollment in the past 10 years was 712 students.

The campus is accessed via three driveways on Casimir Avenue; no vehicle access is provided from Spinning Avenue. The school encompasses 10 acres and is developed with school buildings, hardcourts, turf playfield, and three parking lots with a total of 55 off-street stalls. The main campus and facilities are on the western half of the campus, and the playground uses are on the eastern half. The campus has a multipurpose room, but does not have a gymnasium or physical education locker facilities.

The school operates on a traditional calendar, generally starting near Labor Day and ending the middle of June. Summer school and other programs are occasionally provided. Typical school hours are between 8:00 AM and 3:00 PM; after-school clubs and enrichment programs are offered until 6:00 PM. Other than the standard school operation hours, the school also has nighttime school events, such as Back to School Night, Open House, school performances, talent shows, and awards ceremonies. The performances and assemblies are currently held in the school's multipurpose room. When not in use by the school and District, the CMS school facilities are available for community use through the Civic Center Act.[1]

[1] Section 38130 et seq. of the California Education Code, known as the Civic Center Act, states that every public school in the state must contain a civic center that is made available by the governing school district for public use. Specific uses and users of the civic center are in the Education Code.

2. Environmental Setting

Project Site

The project site is 0.35 acre and is currently a turf playfield with no above-grade structures except for three pull-up bars. Figure 3, *Aerial Photograph*, shows an aerial view of CMS and its surrounding neighborhood. Figure 4, *Site Photographs*, shows photos of the existing conditions at the school.

Separate from the proposed project analyzed in this Initial Study, the District is initiating interior building improvements at CMS in the fall of 2015. Construction laydown for the modernization program is in the southwest corner parking lot.

2.2.2 Surrounding Land Use

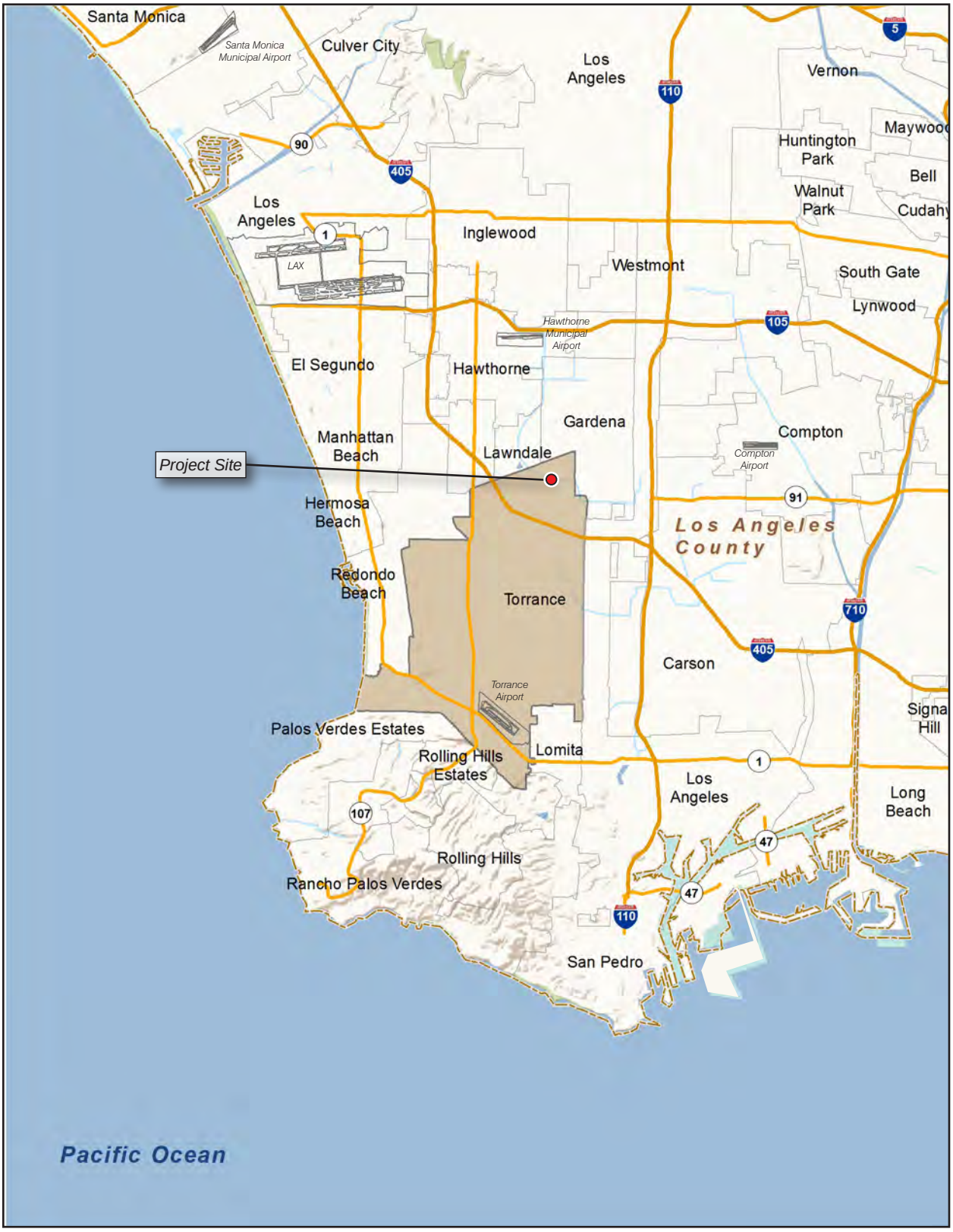
CMS is surrounded by single- and multifamily residential development. Single-family residences border the CMS campus to the north, east, and west, and multifamily residences border the project site to the south.

The project site is bounded by a turf playfield on three sides, to the north, south, and east, and hardcourts on the west. Two storage containers are located to the north, and classrooms are approximately 100 feet to the west. The nearest residences are approximately 60 feet to the north on W. 17th Street, separated from the campus by chain and wooden fences with some vegetation cascading over the fences. The nearest school to the project site is Lincoln Elementary School, approximately 0.3 mile to the north.

2.3 EXISTING ZONING AND GENERAL PLAN

The project site is designated Public/Quasi-Public/Open Space by the City of Torrance General Plan and Public Use (PU) by the Zoning Map.

Figure 1 - Regional Location



● Project Site

0 3
Scale (Miles)

Source: ESRI, 2015

2. Environmental Setting

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Figure 2 - Local Vicinity

Casimir Middle School Campus

Project Site

Source: ESRI, 2015

0 800

Scale (Feet)

2. Environmental Setting

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Figure 3 - Aerial Photograph

Casimir Middle School Campus
Project Site
Vehicle Access

0 350
Scale (Feet)

Source: Google Earth Pro, 2015

2. Environmental Setting

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Figure 4 - Site Photographs

View of the project site looking northwest.

View of the project site looking southwest.

View of the nearby classroom buildings.

View of the nearby classroom building and restroom structure.

2. Environmental Setting

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3. Proposed Project

3.1 PROJECT DESCRIPTION

3.1.1 Proposed Improvements

The proposed project is the construction of a new gymnasium on the CMS campus. The gymnasium would be developed on a small portion of the school's natural turf field, near the north-central portion of the campus. The facility would be approximately 7,500 square feet, with pull-out bleachers for seating of up to 300 spectators. Table 1, *Proposed Gymnasium Uses,* breaks down the space and uses in the proposed building and corresponds to Figure 5, *Gymnasium Floor Plan*.

Table 1 Proposed Gymnasium Uses

	Area (sf)
Gymnasium	5,985
Storage	197
Office #1	118
Office #2	118
Office #3	118
Electrical/Data	85
Locker Room #1	426
Locker Room #2	426
Service Yard	--
Total	7,473 (Net)

Source: HMC Architects, May 20, 2015.

The proposed building would be "boxy" and angular in nature. The maximum height of the building would be 34 feet. Figure 6, *Exterior Building Concepts*, illustrates the front, side, and rear views of the building. Figures 7 and 8, *Gymnasium Elevation Drawings*, show the dimensions of the proposed facility. Exterior lighting would be provided for security purposes, but high-intensity nighttime lighting would not be installed. The facility would include sustainable features, including but not limited to: sensor toilets, waterless urinals, metered sinks, dual-glazed insulated windows, cool roofing, and LED lighting.

3.1.2 Proposed Operation

The proposed facility would not significantly change the existing operations at CMS. The school would continue to operate under the current schedule, as specified in Section 2.2.1. The gymnasium would supplement the school's physical education program with new locker facilities and an indoor multiuse

basketball and volleyball court. Although no joint-use programs are proposed for the gymnasium, the facility would be available for community use through the Civic Center Act.

3.2 PROJECT PHASING

Construction is proposed to commence February 2016 and would be completed in one general phase lasting 16 months:

- Site Preparation and Rough Grading (2 months)
- Utility Trenching (3 weeks)
- Fine Grading (1 week)
- Building Construction (10 months)
- Architectural Coating (1.5 months)
- Finishing/Landscaping (1 month)

A construction worksite traffic control plan would be prepared and implemented by the District, identifying haul routes, hours of operation, protective devices, warning signs, and access. The active construction and staging areas would be on the project site and clearly marked with barriers to separate the project site from pedestrian routes and classroom areas. Anticipated construction equipment includes water trucks, box trucks and flatbeds, semi-trailer/dump trucks, concrete mixer, and pumper.

3.3 PROJECT APPROVAL AND PERMITS

3.3.1 Lead Agency

Torrance Unified School District is the lead agency under CEQA and has approval authority over the proposed project. The District Governing Board of Education must consider this initial study and accompanying MND for adoption and confirm its adequacy in complying with the requirements of CEQA. The board will consider the information in the initial study and MND in deciding to approve or deny the proposed project. The analysis is intended to provide environmental review for the whole of the proposed project, including planning, construction, and ongoing operation.

3.3.2 Responsible Agencies

A public agency other than the lead agency that has discretionary approval power over a project is known as a "responsible agency," as defined by CEQA Guidelines Section 15381. Development of the proposed project would not require approval (e.g., permits, financing approval, or participation agreement) from other public agencies. Therefore, there are no identified responsible agencies.

3.3.3 Reviewing Agencies

Reviewing agencies include agencies that do not have discretionary powers to approve or deny the proposed project or actions needed to implement it, but may review the initial study and MND for adequacy and accuracy. Reviewing agencies for the proposed project may include:

3.3.3.1 STATE

- California Department of General Services, Division of the State Architect

3.3.3.2 REGIONAL

- Los Angeles Regional Water Quality Control Board
- South Coast Air Quality Management District

3.3.3.3 LOCAL

- City of Torrance Development Services Department, Planning Division
- City of Torrance Fire Department
- City of Torrance Police Department

3. Proposed Project

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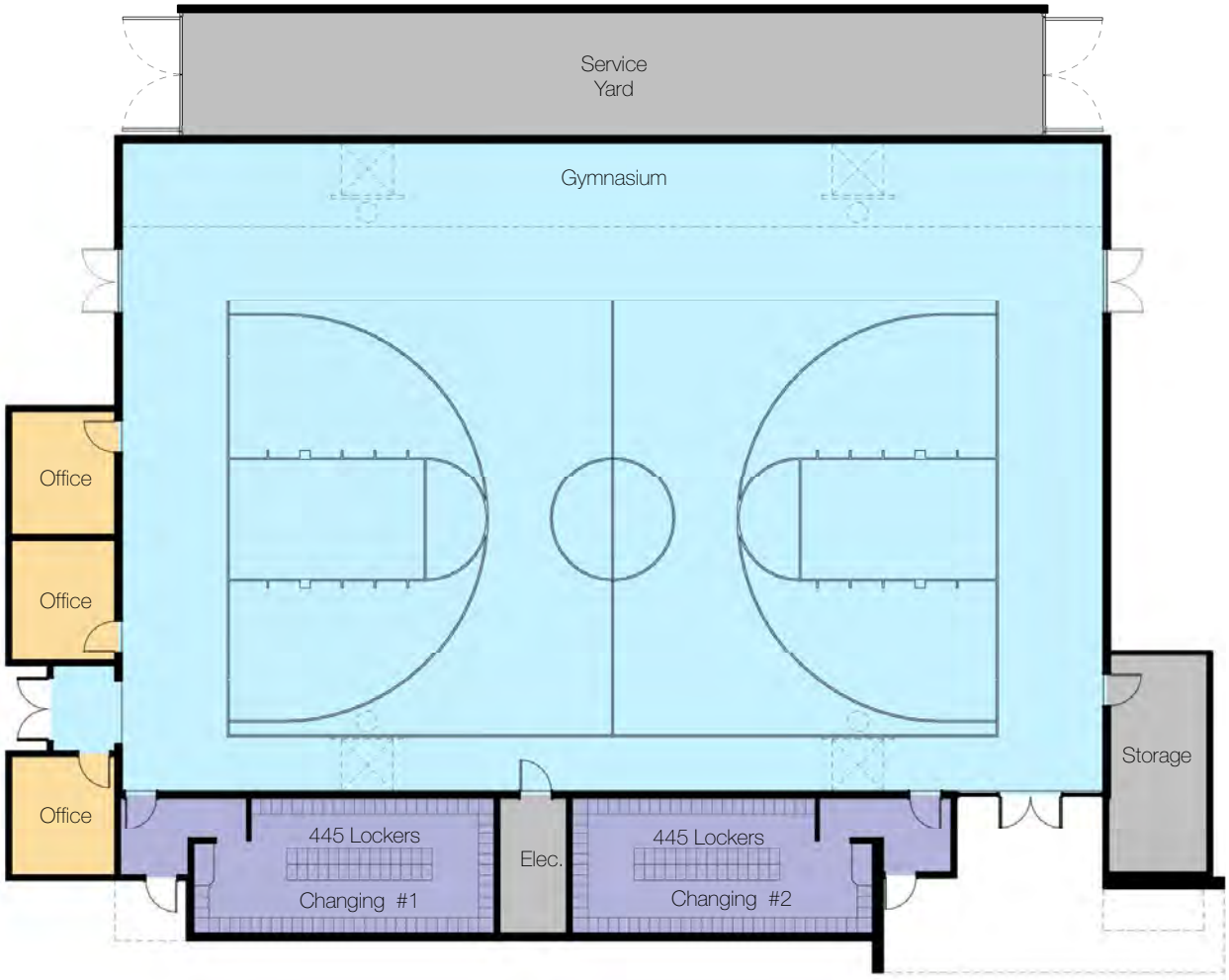
Figure 5 - Gymnasium Floor Plan



Source: HMC Architects, 2015

3. Proposed Project

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Figure 6 - Exterior Building Concepts

Source: HMC Architects, 2015

3. Proposed Project

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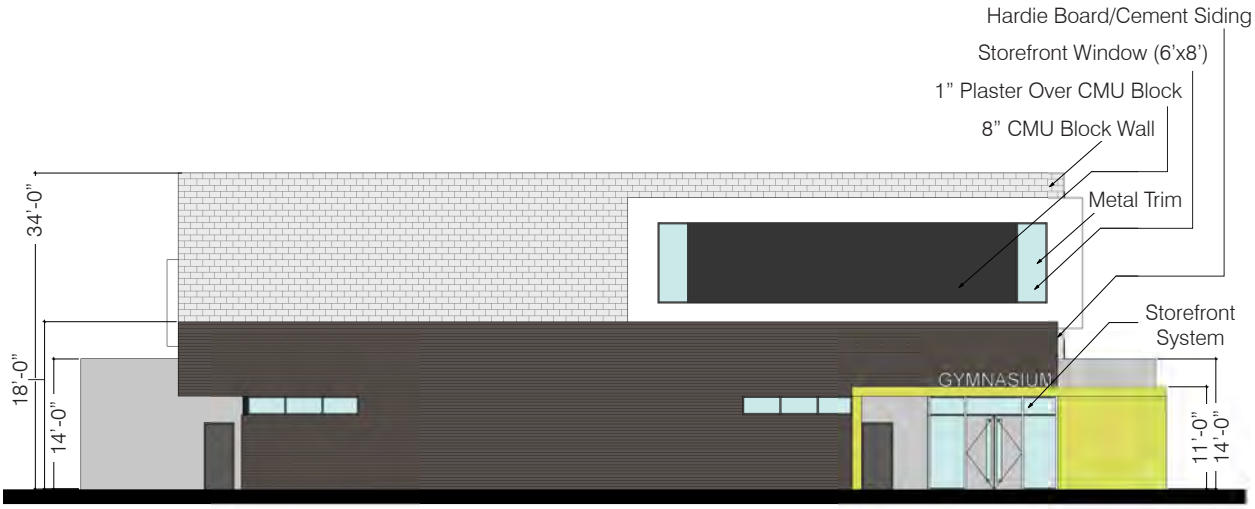
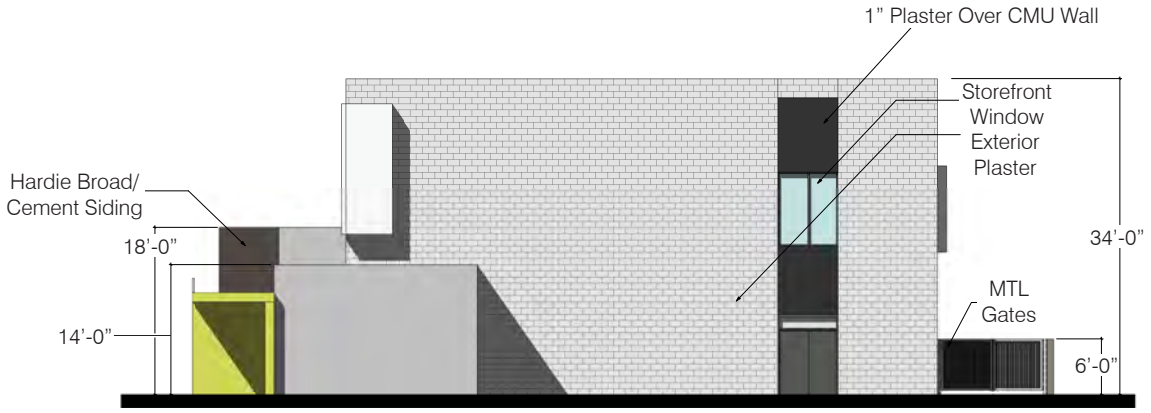
Figure 7 - Gymnasium Elevation Drawings



Front Elevation



Right Elevation

0 20
Scale (Feet)

Source: HMC Architects, 2015

3. Proposed Project

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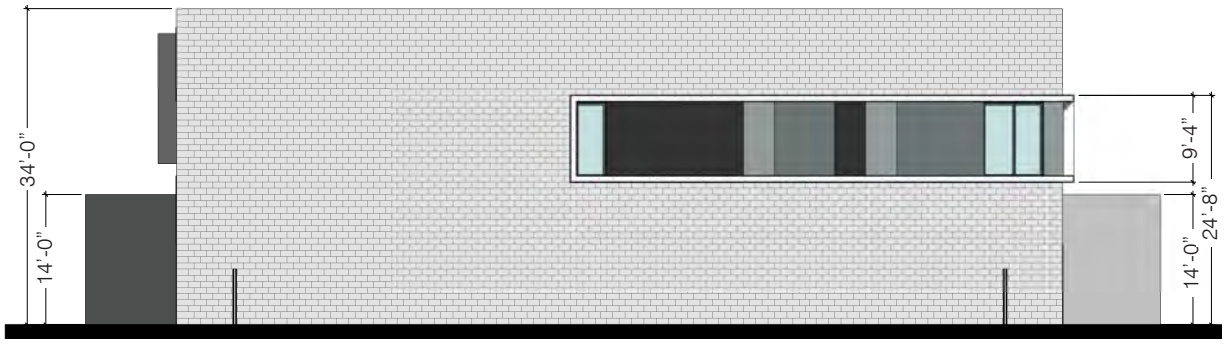
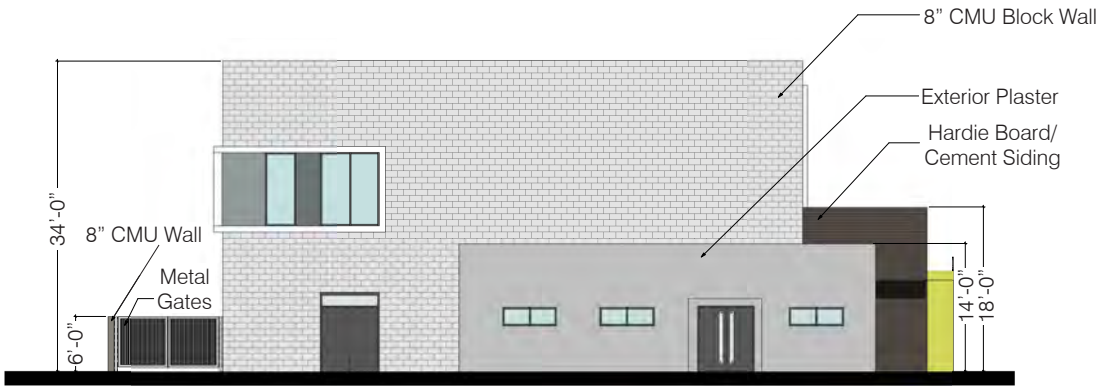
Figure 8 - Gymnasium Elevation Drawings



Rear Elevation



Left Elevation

0 20
Scale (Feet)

Source: HMC Architects, 2015

3. Proposed Project

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4. Environmental Checklist

4.1 BACKGROUND

1. **Project Title:** Casimir Middle School Gymnasium

2. **Lead Agency Name and Address:**
   Torrance Unified School District
   2335 Plaza Del Amo
   Torrance, CA 90509

3. **Contact Person and Phone Number:**
   Donald Stabler, Deputy Superintendent
   310.972.6500

4. **Project Location:**
   17220 Casimir Avenue
   Torrance, Los Angeles County, California (Assessor's Parcel Number 4093-027-900)

5. **Project Sponsor's Name and Address:**
   Torrance Unified School District
   2335 Plaza Del Amo
   Torrance, CA 90509

6. **General Plan Designation:** Public/Quasi-Public/Open Space

7. **Zoning:** Public Use (PU)

8. **Description of Project**:
   See section 3.1, *Project Description*.

9. **Surrounding Land Uses and Setting**:
   The project site is on the CMS campus and bounded by a turf playfield to the north, south, and east, and hardcourts on the west. Two storage containers are located to the north, and classrooms are approximately 100 feet to the west. The nearest residences are to the north on W. 17th Street, separated from the campus by chain and wooden fences with some vegetation cascading over the fences.

10. **Other Public Agencies Whose Approval Is Required**:
    None

4.2 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.

☐ Aesthetics	☐ Agricultural and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

4.3 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.

☒ 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.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "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.

☐ 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 or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

June 26, 2015
Date

Donald A. Stabler
Printed Name

Torrance Unified School District
For

4.4 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 a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced 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 would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of 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 that 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.

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 Analyses Used.** Identify and state where they are available for review.

   b) **Impacts Adequately Addressed.** Identify which effects from the above 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 the earlier analysis.

   c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe 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). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

4. Environmental Checklist

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this 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 significant.

5. Environmental Analysis

5.1 AESTHETICS

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Comments:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The City of Torrance General Plan, Figure CR-1, Open Space Resources, identifies scenic view corridors near Torrance Beach (Torrance 2010). The project site is five miles from the closest scenic view corridor near Torrance Beach. It is not part of any scenic vista. The project site is developed as a part of a middle school campus, and implementation of the proposed project would not have a substantial adverse effect on a scenic vista. No impact would occur, and no mitigation measures are necessary.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no state-designated scenic highways within the City of Torrance. The nearest eligible (not officially designated) state scenic highway is near the City of Santa Monica, approximately 14 miles from the site. No scenic resources would be damaged due to project implementation (Caltrans 2015). No impact would occur and no mitigation measures are required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. The proposed gymnasium is an approximately 7,473-square-foot "boxy" building (see Figure 6, *Exterior Building Concepts*). The height of the gymnasium would range from approximately 14 feet at the entrance to 34 feet at the back of the building. Figures 6 shows the exterior

front, side, and rear elevations of the proposed building. The new gymnasium would be on the natural turf field. Existing campus buildings are one-story—some have pointed roof lines and some are flat-roof portable classrooms, as shown in Figure 4, *Site Photographs*. The new gymnasium would be the tallest building on campus. It would have modern architecture, with front and side elevations providing visual breaks to avoid continuous roof lines and monotonous "boxes." Although the new gymnasium would look different from older campus buildings, it would enhance, not degrade the campus aesthetics. Since the gymnasium would have similar architectural feature and styles as the existing structures onsite, its appearance would be similar to the existing buildings. The proposed project would improve the visual quality of the existing campus. No significant impacts would occur, and no mitigation measures are required.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Artificial light sources can create glare effects and light pollution. The proposed project would provide lighting mainly for safety purposes—walkway and building illumination, and security lighting—and would not create substantial exterior lighting impacts to nearby sensitive receptors. The nearest residences are approximately 60 feet to the north along W. 171st Street; they are separated from the campus by chain and wooden fences with vegetation cascading over the fences. As shown in Figure 6, *Exterior Building Concepts*, the proposed project would not be made of highly reflective building materials other than glass for windows and dark metal trims, and it would not cause substantial daytime glare impacts. No electrical signage, high-intensity, or flashing nighttime lights would be installed. Moreover, all artificial lighting sources would be constructed so that lights are directed away from the residences, and if necessary, shielding would be provided to minimize any adverse lighting impacts to residences. No significant lighting impacts would occur, and no mitigation measures are required.

5.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

Comments:

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 City of Torrance, including the project site, is outside of the survey area on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency (DOC 2015). The FMMP maps for Los Angeles County cover only about half of its land area due to the fact that most of the county—incorporated cities and unincorporated county areas—does not have any important farmland. The project site is part of a middle school campus in an urban area and is currently developed with turf athletic fields. The proposed project would not convert any special status farmland to nonagricultural use. No impact would occur, and no mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is designated Public Use (PU) by the city's zoning map. The proposed gymnasium use is consistent with the existing middle school use and would not conflict with any agricultural use or a Williamson Act contract. No impact would occur, and no mitigation measures are required.

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 site is zoned Public Use, and no rezoning of forest land or timberland would result from project implementation. No impact would occur, and no mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is part of a middle school campus in an urban area, and no forest land would be lost due to project implementation. No impact would occur, and no mitigation measures are required.

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 would be on the existing middle school campus and would not result in the conversion of farmland to nonagricultural or forest land to nonforest use. No impact would occur, and no mitigation measures are required.

5.3 AIR QUALITY

The Air Quality section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. A background discussion on the air quality regulatory setting, meteorological conditions, existing ambient air quality in the vicinity of the project site, and air quality modeling can be found in Appendix A.

The primary air pollutants of concern for which ambient air quality standards (AAQS) have been established are ozone (O_3), carbon monoxide (CO), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen dioxides (NO_2), and lead (Pb). Areas are classified under the federal and California Clean Air Act as either in attainment or nonattainment for each criteria pollutant based on whether the AAQS have been achieved. The South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (SCAQMD), is designated nonattainment for O_3, and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2014a).

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Comments:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the air quality management plan (AQMP). It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the AQMP. The most recent comprehensive plan is the 2012 AQMP, adopted on December 7, 2012 (see Appendix A to this Initial Study for a description of the 2012 AQMP).

Regional growth projections are used by SCAQMD to forecast future emission levels in the SoCAB. For southern California, these regional growth projections are provided by the Southern California Association of Governments (SCAG) and are partially based on land use designations in city/county general plans. Typically, only large, regionally significant projects have the potential to affect the regional growth projections. The proposed project is not considered a regionally significant project that would warrant Intergovernmental Review by SCAG under CEQA Guidelines section 15206.

The proposed project involves construction of a gymnasium and would not result in an increase in enrollment at the existing middle school. The land use is consistent with City of Torrance's underlying General Plan land use designation, and the site currently operates as a middle school. Thus, it would not have the potential to substantially affect the regional growth projections. Additionally, the regional emissions generated by construction and operation of the proposed project would be less than the SCAQMD emissions thresholds, and SCAQMD would not consider the project a substantial source of air pollutant emissions that would have the potential to affect the attainment designations in the SoCAB. Therefore, the project would

not affect the regional emissions inventory or conflict with strategies in the AQMP. Impacts are less than significant, and no mitigation measures are required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The following describes project-related impacts from short-term construction activities and long-term operation of the proposed project.

Short-Term Air Quality Impacts

Construction activities would generate air pollutants, primarily from 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles; and 4) off-gas emissions of volatile organic compounds (VOCs) from application of asphalt, paints, and coatings.

Construction activities would be limited to approximately 0.35 acre of the 10-acre campus and would involve site preparation, site grading, utility trenching, construction of the gymnasium, and architectural coating. Construction activities would start in the first quarter of 2016 and would last approximately 16 months. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, based on the project's preliminary construction schedule, phasing, and equipment list provided by the District. The construction schedule and equipment mix is based on preliminary engineering and is subject to changes during final design and as dictated by field conditions. Results of the construction emission modeling in Table 2, *Maximum Daily Regional Construction Emissions*, show that air pollutant emissions from construction-related activities would be less than their respective SCAQMD regional significance threshold values. Therefore, air quality impacts from project-related construction activities would be less than significant. No mitigation measures are required.

Table 2 Maximum Daily Regional Construction Emissions

Source	Criteria Air Pollutants (lbs/day)[1,2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2016 Site Preparation/Mass Grading	1	12	10	<1	1	1
2016 Site Preparation + Soil Haul	1	12	10	<1	1	1
2016 Mass Grading + Soil Haul	2	21	24	<1	2	1
2016 Trenching	<1	3	3	<1	<1	<1
2016 Fine Grading	1	12	10	<1	1	1
2016 Building Construction	2	14	12	<1	1	1
2017 Building Construction	2	13	12	<1	1	1
2017 Architectural Coating	1	<1	1	<1	<1	<1
2017 Finishing/Landscaping	1	11	4	<1	1	1
Maximum Daily Emissions	2	21	24	<1	2	1
SCAQMD Regional Threshold	75	100	550	150	150	55
Exceeds Regional Threshold?	No	No	No	No	No	No

Source: CalEEMod, version 2013.2.2.

[1] Construction phasing is based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.

[2] Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers. Modeling also assumes a VOC of 35 g/L for interior paints and 40 g/L for exterior paints based on construction information provided by the District.

Long-Term Operation-Related Air Quality Impact

Long-term air pollutant emissions from the project would be generated by area sources (e.g., landscape fuel use, aerosols, and architectural coatings) and energy use (natural gas) associated with the proposed gymnasium. Since the events that would be held at the proposed gymnasium already take place at the existing middle school, the proposed project would not generate new trips. Criteria air pollutant emissions for the proposed project were modeled using CalEEMod. Table 3, *Net Increase in Maximum Daily Regional Operational Phase Emissions*, identifies criteria air pollutant emissions from the proposed project.

As shown, the net increase in project-related air pollutant emissions from area sources and energy use would be nominal and would not exceed the SCAQMD's regional emissions thresholds for operational activities. Overall, long-term operation-related impacts to air quality would be less than significant, and no mitigation measures are required.

5. Environmental Analysis

Table 3 Net Increase in Maximum Daily Regional Operational Phase Emissions

Source	Criteria Air Pollutants (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Total Emissions	<1	<1	<1	<1	<1	<1
SCAQMD Regional Threshold	55	55	550	150	150	55
Exceeds Regional Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2013.2.2.
Notes: Highest winter or summer emissions are reported.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead under the National AAQS (CARB 2014a). According to SCAQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (SCAQMD 1993). Construction and operational activities would not result in emissions in excess of SCAQMD's significant thresholds. Therefore, the project would not result in a cumulatively considerable net increase in criteria pollutants, and impacts would be less than significant. No mitigation measures are required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The proposed project could expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction LSTs

Localized significance thresholds (LSTs) are based on the California AAQS, which are the most stringent AAQS, established to provide a margin of safety in the protection of public health and welfare. They are designed to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. Construction LSTs are based on the size of the project site, distance to the nearest sensitive receptor, and Source Receptor Area. Sensitive receptors nearest to the school are the adjacent surrounding residences and the residences to the south across Artesia Boulevard.

Construction activities would cause temporary increases in air pollutant concentrations. Table 4, *Localized Construction Emissions*, shows the maximum daily construction emissions (pounds per day) generated during onsite construction activities compared with the SCAQMD's LSTs. As shown, construction activities would

not exceed the LSTs. Therefore, localized impacts would be less than significant, and no mitigation measures are required.

Table 4 Localized Construction Emissions

Source	Pollutants(lbs/day)[1,2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
2016 Site Preparation/Mass Grading	11	9	1	1
2016 Site Preparation + Soil Haul	11	9	1	1
2016 Mass Grading + Soil Haul	11	9	1	1
2016 Trenching	3	2	<1	<1
2016 Fine Grading	11	9	1	1
2016 Building Construction	14	9	1	1
2017 Building Construction	13	9	1	1
2017 Architectural Coating	0	0	0	0
2017 Finishing/Landscaping	11	4	1	<1
SCAQMD ≤1.00-acre LST	91	664	5	3
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2013.2.2; SCAQMD, Localized Significance Methodology, 2006, October, Appendix A.

Notes: In accordance with SCAQMD methodology, only onsite stationary sources and mobile equipment occurring on the proposed project site are included in the analysis. LSTs are based on receptors within 82 feet (25 meters) of the proposed project site in Source Receptor Area (SRA) 3 and acreage disturbed of one acre or less.

1 Construction phasing is based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.

2 Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Operation LSTs

Onsite stationary sources during operation of the proposed project would not generate substantial quantities of emissions. Land uses with stationary sources that have the potential to generate substantial emissions and would require a permit from SCAQMD include industrial land uses, such as chemical processing, and warehousing operations, where substantial truck idling is possible onsite. The proposed project does not fall within these categories of uses. Operation of the proposed project would require the use of standard onsite mechanical equipment, such as heating, ventilation, and air conditioning units, but air pollutant emissions from such activity would be nominal (see Table 3). Therefore, localized air quality impacts related to stationary-source emissions would be less than significant, and no mitigation measures are required.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

The SoCAB has been designated attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2011). Since student enrollment capacity would not increase and the events that would be held at the proposed gymnasium currently take place at the middle school, the proposed project would not generate new trips. The project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project site. Localized air quality impacts related to mobile-source emissions would be less than significant, and no mitigation measures are required.

Health Risk Assessment

SCAQMD currently does not require health risk assessments of short-term emissions from construction equipment, primarily diesel particulate matter (DPM). The Office of Environmental Health Hazards Assessment (OEHHA) adopted new guidance for the preparation of health risk assessments, issued in March 2015. OEHHA has developed a cancer risk factor and non-cancer chronic reference exposure level for DPM, but they are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM. The gymnasium has a very short construction schedules (16 months), limiting exposure of onsite and offsite receptors. SCAQMD does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. In addition, construction activities would not exceed LST significance thresholds. For these reasons, construction emissions would not pose a threat to onsite and offsite receptors at or near the school, and project-related construction health impacts would be less than significant. No mitigation measures are required.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. The proposed project would not result in objectionable odors. The threshold for odor is if a project creates an odor nuisance pursuant to SCAQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The uses proposed by the project do not fall within the aforementioned land uses. Emissions from construction equipment, such as diesel exhaust and volatile organic compounds from architectural coatings, may generate odors. However, these odors would have low

concentrations, would be temporary, and would not affect a substantial number of people. No significant impacts would occur, and no mitigation measures are required.

5.4 BIOLOGICAL RESOURCES

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or US Fish and Wildlife Service?				X
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 Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
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?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

Comments:

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 Game or US Fish and Wildlife Service?

No Impact. Special status species include: those listed as endangered or threatened under the federal Endangered Species Act or California Endangered Species Act; species otherwise given certain designations by the California Department of Fish and Wildlife; and plant species listed as rare by the California Native Plant Society. The site is landscaped with turf. Frequent disturbances, such as mowing, preclude use of the site by sensitive species. Project development would not impact sensitive species. No mitigation measures are required.

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 Game or US Fish and Wildlife Service?

No Impact. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies; known to provide habitat for sensitive animal or plant species; or known to be important wildlife corridors. Riparian habitats are those along the banks of rivers and streams. There is no sensitive natural community or riparian habitat onsite. No impact would occur, and no mitigation measures are required.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include areas such as swamps, marshes, and bogs. There are no wetlands onsite. The nearest wetland to the site mapped on the National Wetlands Mapper maintained by the US Fish and Wildlife Service is the Dominguez Channel, about a quarter mile to the north (USFWS 2015). Project development would not impact wetlands. No mitigation measures are required.

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. The project site is on a developed middle school campus in a built-out urban area. Thus, the site is not available for overland wildlife movement. There is no vegetation onsite that could be used for nesting by migratory birds protected under federal and state laws. No impact would occur, and no mitigation measures are required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. There are no biological resources onsite. The City of Torrance does not have a tree preservation ordinance that could be applicable onsite. Project development would not impact local policies or ordinances protecting biological resources. No mitigation measures are required.

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. The project site is not in or next to the plan area of a habitat conservation plan or Natural Community Conservation Plan. The City of Torrance has one designated habitat preserve: the 50-acre Madrona Marsh Preserve, about 3.4 miles to the southeast, which is also designated a Significant Ecological Area by Los Angeles County (Torrance 2015; DRP 2015). Project development would not impact the Madrona Marsh Preserve. No impact would occur, and no mitigation measures are required.

5.5 CULTURAL RESOURCES

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Comments:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

No Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally, a resource is considered "historically significant" if it meets one of the following criteria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

ii) Is associated with the lives of persons important in our past.

iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

No built-environment historic resources are present on or within 0.5 mile of the project site. The project site is part of a turf playfield on the CMS campus, which was built in 1949. An 1896 topographic map shows little or no development on the site of the current CMS; however, there were four roads and seven buildings near the school site. The Redondo Railroad ran to the north of the project site. A 1944 topographic map shows little to no visible development on the school site, but the numerous buildings and roads nearby reflect a dense urban environment. The Pacific Electric Railroad ran to the north of the project site, and the Dominguez Channel ran to the east. Major roadways nearby included Crenshaw Boulevard (SCCIC 2015).[2] Project development would not damage any built historic resources, and no impact would occur. No mitigation measures are required.

[2] The names, dates, and scales of the topographic maps are: Redondo 1896: 1:62,500; Redondo 1944: 1:62,500.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less Than Significant Impact With Mitigation Incorporated.

According to the EIR for the City of Torrance's 2009 General Plan Update, seven prehistoric archaeological resources were identified in the city. However, according to information from the South Central Coastal Information Center, a clearinghouse for cultural resources in Los Angeles County, no registered resources are on or within 0.5 mile of the project site (SCCIC 2015).

Additionally, the Native American Heritage Commission's (NAHC) Sacred Lands File search did not identify any cultural resources on or near the project site (NAHC, Sanchez 2015). Four tribal representatives identified by the NAHC were contacted about their knowledge of potential cultural resources on the project site, and none have responded, to date.

The project site was previously graded for its current use as a playground, but development of the proposed project would require excavation that could encounter unaffected soils. Therefore, it is possible that archaeological resources could be encountered during ground-disturbing activities. This impact would be potentially significant. Implementation of mitigation measure CUL-1 would reduce this impact to less than significant.

Mitigation Measure

CUL-1 Prior to the beginning of ground disturbances, Torrance Unified School District shall retain a qualified archaeologist/paleontologist to monitor ground-disturbing activities five feet below ground surface. The archaeologist shall meet the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register 44738-39). Before ground-disturbing activities begin, the archaeologist/paleontologist shall prepare an archaeological monitoring plan consistent with CEQA Guidelines section 15064.5, specifying the frequency, duration, and methods of monitoring. The archaeologist/paleontologist shall train construction workers regarding types of archaeological and paleontological resources that could be identified in site soils. The archaeologist/paleontologist shall have the authority to stop grading or construction work within 25 feet of the site of any discovery of potential historical, archaeological, or paleontological resources until a find can be recovered and the significance of the find identified per CEQA. All resources recovered shall be curated at the facilities of the Natural History Museum of Los Angeles County.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated. Surface deposits onsite consist of younger Quaternary alluvium underlain by older Quaternary deposits.[3] Older Quaternary deposits in the Torrance region have produced numerous vertebrate fossil localities, including:

- **Locality LACM 4444,** the Mobil Oil Refinery property southwest of the intersection of Crenshaw Boulevard and 190th Street in the City of Torrance, produced fossil specimens of terrestrial horse, *Equus*, and marine whale, *Cetacea*, at a depth of 15 feet below the surface.

- **Locality LACM 1839,** near the intersection of Crenshaw Boulevard and 236th Street in the City of Torrance, produced a fossil specimen of horse, *Equus*, at a depth of about 35 feet below the surface.

- **Locality LACM 3823,** south of the intersection of Sepulveda Boulevard and Figueroa Street in the City of Carson, produced a specimen of fossil camel, *Camelops*, at 12 to 14 feet below street level.[4,5]

Shallow excavations in the younger and older Quaternary deposits exposed in all of the proposed project area sites are unlikely to encounter significant vertebrate fossils. Deeper excavations (i.e., more than five feet) in older Quaternary deposits, however, may encounter significant vertebrate fossils (NHMLAC 2015). On this site, surface sediments below artificial fill—which ranges from approximately one to six feet deep—consist of old Quaternary alluvial floodplain deposits (Koury 2014). Thus, it is possible for vertebrate fossils to be found onsite in sediments below artificial fill. This impact would be potentially significant. Implementation of mitigation measure CUL-1 would reduce this impact to less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. Considering that multiple prehistoric archaeological sites have been identified in Torrance, there is some potential that project ground-disturbing activities could damage human remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in a project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and made recommendations concerning the treatment and disposition of the human remains to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The project would comply with existing law, and potential impacts to human remains would be less than significant. No mitigation measures are required.

[3] The Quaternary Period extends from about 1.8 million years ago to the present (USGS 2013).
[4] Fossil localities are identified by streets and directions from streets, not by city. The cities are identified here for clarification.
[5] Distance and direction from the project site to each locality are, rounded to the nearest mile:
LACM 4444: 1 mile southwest; LACM 1839: 4 miles south; and LACM 3823: 5 miles southeast.

5. Environmental Analysis

5.6 GEOLOGY AND SOILS

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?				X
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?			X	
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?				X

Comments:

a) Expose people or structures to 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.

No Impact. Based on a review of the Alquist-Priolo Earthquake Fault Zoning Map for the Torrance 7.5' Quadrangle, the City of Torrance General Plan (2010), and the Geologic Map of the Long Beach 30' X 60' Quadrangle (Saucedo et al. 2003), the site is not on a known fault. Therefore, there is no potential at the site for the rupture of a known earthquake fault. No mitigation measures are required.

ii) Strong seismic ground shaking?

Less Than Significant Impact. A number of faults in the southern California area are considered active, and the project site is expected to experience strong seismic ground shaking in the future. The proposed structure would be constructed in accordance with applicable building codes and standards. The most recent state building standard is the 2013 California Building Code (CBC) (Title 24, Part 2, California Code of Regulations), with local, more-restrictive amendments based on local geography, topography, or climate. These codes provide minimum standards to protect property and the public welfare by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC's provisions for earthquake safety are based on factors such as occupancy type, the types of soil and rock onsite, and the probable strength of ground motion at the project site. Additionally, the CBC requires the preparation of project-specific geotechnical/engineering reports by a certified engineering geologist and/or geotechnical engineer prior to construction. The proposed project would be required to comply with the recommendations in these reports. Any structure built for this project would adhere to the most recent version of the CBC. Impacts related to seismic ground shaking would be less than significant. No mitigation measures are required.

iii) Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction refers to loose, saturated sand or gravel deposits that lose their load supporting capability when subjected to intense shaking. During intense shaking, any buildings or structures on these sediments may float, sink, or tilt as if on water. Liquefaction potential varies based on three main factors: 1) cohesionless, granular soils with relatively low densities (usually of Holocene age); 2) shallow groundwater (generally less than 50 feet); and 3) moderate to high seismic ground shaking. Lateral spreading refers to lateral displacement of large, surficial blocks of soil as a result of pore pressure buildup or liquefaction in a subsurface layer.

Based on a review of the Seismic Hazard Zones map for the Torrance Quadrangle, the site is not in a zone of mandatory investigation for liquefaction. In addition, based on a review of the Seismic Hazard Zone Report for the Torrance 7.5' Quadrangle, groundwater in the area is historically around 50 feet below ground surface, and alluvial (i.e., water transported) soils beneath the site are Pleistocene age. Pleistocene soils tend to be consolidated and less prone to liquefaction. Therefore, liquefaction and lateral spreading are not expected at the site. No impact related to liquefaction would occur. No mitigation measures are required.

iv) Landslides?

No Impact. Susceptibility to landslides and other forms of slope failure depend on several factors, usually in combination—steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, seismic activity, etc.

Based on a review of the United States Geological Survey (USGS) 7.5-minute Topographic Series, Torrance, California Quadrangle Map (USGS 2015), the topography of the project site is relatively level,

with a gentle gradient (slopes less than 0.7 percent) to the northeast. The lack of significant slopes on or near the project site indicates that there is not a significant hazard from slope instability, landslides, and debris flows. This conclusion is supported by Morton et al. (2003) and the Torrance General Plan (2010). No impact related to landslides would occur. No mitigation measures are required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved, and removed from one place and transported to another. Precipitation, water, waves, and wind are all agents of erosion. Ordinarily, erosion proceeds so slowly as to be imperceptible, but when the natural equilibrium of the environment changes, the rate of erosion can be greatly accelerated. This can create aesthetic and engineering problems. Accelerated erosion in an urban area can cause damage by undermining structures; blocking storm sewers; and depositing silt, sand, or mud in roads and tunnels. Eroded materials may eventually be deposited into local waters, where the carried silt can remain suspended in the water for some time, constituting a pollutant and altering the normal balance of plant and animal life.

Although some erosion would result from grading and construction operations, it is not expected that the project would result in significant soil erosion or loss of topsoil. The project site is relatively level, with no unusual geographic features. The proposed project would not expose any soil for prolonged periods. Soils may be exposed during project construction, but that would be temporary and would not result in substantial erosion. Impacts related to soil erosion during construction activities would be less than significant. No mitigation measures are required.

Stormwater from the project would be collected in drains, which would discharge into the stormwater drainage facilities on the middle school campus or percolate through landscaped areas. Impacts related to soil erosion during operation of the proposed facility would not be significant. No mitigation measures are required.

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. The project site is atop late to middle Pleistocene alluvial flood plain deposits (Saucedo et al. 2003). As discussed in Section 5.6a(vi), the proposed project would not result in on- or offsite landslides. Lateral spreading—the lateral displacement of large, surficial blocks of soil—is not expected at the site.

Natural soils may be susceptible to expansion, consolidation, and collapse (including hydrocollapse with the addition of water). Consolidation occurs when more load is placed on soil with a low relative density, compressing pore spaces and, where saturated, squeezing water out. Hydrocollapse occurs when soil that can carry more load when dry condition collapses upon saturation. Based on previous testing on the campus by Koury Geotechnical Services, these conditions are not expected at the site.

Subsidence of the ground surface has been reported in alluvial basins where significant volumes of groundwater (often in an overdraft condition; e.g., Lofgren 1971) or petroleum products (oil and natural gas) have been withdrawn over several decades. The primary cause of nontectonic subsidence in alluvial basin areas is alluvial compaction due to removal of large quantities of fluid (groundwater or oil). For groundwater basins, this results in a significant lowering of the groundwater levels and, in oil fields, depletion of the oil reserves. No oil or gas fields are within a mile of the site, so there is no potential for subsidence due to oil or gas withdrawal. The proposed project would not remove significant quantities of water or other fluids from the ground. No impact related to subsidence would occur. No mitigation measures are required.

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. Expansive soils swell when they become wet and shrink when they dry out, which can crack building foundations and, in some cases, distress the structure of the buildings themselves. Based on the expected lithology (physical character of the material beneath the site) and a review of Saucedo et al. (2003), the project site is likely to be located on expansive soil. Standard grading technologies and compliance with current grading requirements in accordance with the seismic requirements of the CBC would reduce impacts from expansive soils to a less than significant level. No mitigation measures are required.

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. Development of the proposed project would not require the installation of a septic tank or alternative wastewater disposal system. The project would utilize the local sewer system. Therefore, no impact would result from septic tanks or other onsite wastewater disposal systems. No mitigation measures are required.

5.7 GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHGs), into the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydro fluorocarbons, per fluorocarbons, and chlorofluorocarbons.[6, 7]

[6] Water vapor (H_2O) is the strongest GHG and the most variable (vapor, cloud droplets, ice crystals). However, water vapor is considered part of the feedback loop, not a pollutant or a primary cause of change.

[7] Black carbon contributes to climate change directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting their formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM (CARB 2014b). However, state and national GHG

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This section analyzes the project's contribution to global climate change impacts in California through an analysis of project-related GHG emissions. Information on manufacture of cement, steel, and other "life cycle" emissions that would occur as a result of the project are not applicable and are not included in the analysis.[8] A background discussion on the GHG regulatory setting and GHG modeling can be found in Appendix A to this Initial Study.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Comments:

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

Less Than Significant Impact. Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

The proposed project would generate GHG emissions from energy use (indirectly from purchased electricity use and directly through fuel consumed for building heating) and area sources (e.g., equipment used onsite, consumer products, coatings). Since the events that would be held at the proposed gymnasium currently take place at the middle school, the proposed project would not generate new trips, solid waste, or water uses. Annual GHG emissions were calculated for construction and operation of the project. Annual average construction emissions were amortized over 30 years and included in the emissions inventory to account for

inventories do not include black carbon due to ongoing work to resolve its precise global warming potential. Guidance for CEQA documents does not yet include black carbon.

[8] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions, found that life cycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of material consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

GHG emissions from the construction phase of the project. Project-related GHG emissions are shown in Table 5, *Net Increase in Project-Related GHG Emissions at Buildout*. As shown, the proposed project at buildout would generate 27 metric tons of carbon dioxide–equivalent ($MTCO_2e$) emissions annually. This total is nominal and would not exceed the SCAQMD's bright-line threshold of 3,000 $MTCO_2e$,[9] and the proposed project's cumulative contribution to GHG emissions is less than significant. No mitigation measures are required.

Table 5 Net Increase in Project-Related GHG Emissions at Buildout

Source	$MTCO_2e$/year[1]	Percent of Project Total
Area	<1	<1%
Energy	19	69%
Amortized Construction Emissions[2]	8	31%
Total Emissions	27	100%
SCAQMD's Bright-Line Threshold	3,000	NA
Exceeds Bright-Line Threshold	No	NA

Source: CalEEMod Version 2013.2.2.
Notes: $MTCO_2e$: metric tons of carbon dioxide-equivalent
Percent changes from each source may not total to 100 percent due to rounding.
[1] Assumes implementation of the 2013 California Green Building Standards Code (CALGreen) and 2013 Building and Energy Efficiency Standards. The 2013 Building and Energy Efficiency Standards are 30 percent more energy efficient than the 2008 Standards for non-residential buildings. Modeling assumes all structures onsite would be 30 percent more energy efficient than the 2008 building code for residential structures.
[2] Construction emissions are amortized over a 30-year project lifetime per recommended SCAQMD methodology.

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 California Air Resources Board's (CARB's) Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target established by Assembly Bill (AB) 32, which is to return to 1990 emission levels by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 business-as-usual (BAU) GHG emissions and identified that the state as a whole would need to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the target of AB 32 (CARB 2008). Since release of the 2008 Scoping Plan, CARB has updated the 2020 BAU forecast to reflect GHG emissions in light of the economic downturn and measures not previously considered in the 2008 Scoping Plan baseline inventory. The revised 2020 BAU forecast shows that the state would have to reduce GHG emissions by 21.6 percent from BAU without Pavley[10] and the 33 percent Renewable Portfolio

[9] This threshold is based on a combined threshold of 3,000 $MTCO_2e$ for all land use types, proposed by SCAQMD's Working Group based on a survey of the GHG emissions inventory of CEQA projects. Approximately 90 percent of CEQA projects' GHG emissions inventories exceed 3,000 $MTCO_2e$, which is based on a potential threshold approach cited in CAPCOA's white paper, "CEQA and Climate Change."

[10] The CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. These regulations were authorized by the 2002 legislation Assembly Bill 1493 (Pavley). On September 24, 2009, the CARB adopted amendments to the "Pavley" regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.

Standard (RPS) or 15.7 percent from the adjusted baseline (i.e., with Pavley and 33 percent RPS) (CARB 2012).[11]

Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, and changes in the Corporate Average Fuel Economy standards. In addition, new buildings are required to comply with the 2013 Building and Energy Efficiency Standards (or future cycle update) and California Green Building Code (CALGreen). The project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32.

In addition to AB 32, the California legislature passed Senate Bill (SB) 375 to connect regional transportation planning to land use decisions made at a local level. SB 375 requires the metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plans to achieve the per capita GHG reduction targets. For the SCAG region, the SCS was adopted in April 2012 (SCAG 2012). The SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers. The proposed project is consistent with the underlying General Plan land use designation and would not interfere with SCAG's ability to implement the regional strategies in the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). No impact would occur, and no mitigation measures are required.

5.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

[11] In May 2014, CARB completed a five-year update to the Scoping Plan. CARB recalculated the 1990 GHG emission levels with the updated global warming potential (GWP) in the IPCC's Fourth Assessment Report, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 $MMTCO_2e$ (CARB 2014c).

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Comments:

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

Less Than Significant Impact. The proposed project involves the construction of a gymnasium at an existing middle school campus. Project-related construction activities would require the use of hazardous materials such as fuels, lubricants, and greases in construction equipment and coatings used in construction. Onsite construction equipment might require routine or emergency maintenance that could result in the release of oil, diesel fuel, transmission fluid, or other materials. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard or environmental threat. These activities would also be short term or one time in nature. Significant amounts of hazardous materials would not be transported, used, or disposed of in conjunction with the operation of the proposed project. Maintenance of the new facility would likely require the use of cleaners, solvents, paints, and other janitorial products that are potentially hazardous. However, these materials would be used in relatively small quantities and would be stored in compliance with established state and federal requirements. With the exercise of normal operational safety practices currently employed at the school, significant impacts would not occur. No mitigation measures are required.

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. The project site is on an existing middle school campus, which does not use any significant quantities of hazardous materials in its operation. Also, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Project construction and operational workers would be trained on the proper use, storage, and disposal of hazardous materials. Construction projects typically maintain supplies onsite for containing and cleaning small spills of hazardous

materials. No significant impacts would result from project implementation. No mitigation measures are required.

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. Operation of the proposed gymnasium would not emit hazardous emissions or transport, use, or dispose of significant amounts of hazardous materials. Hazardous materials at the proposed facility would be restricted to typical cleaning solvents and paints used by the school's janitorial and/or maintenance staff. These materials would be used in small quantities and stored in compliance with established state and federal requirements. No significant impacts would result from project implementation. No mitigation measures are required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. All construction activities will occur on the campus and will not disturb any offsite properties. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or 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 nearest airport is Hawthorne Municipal Airport, about 3.5 miles north of the middle school (AirNav.com). The project site is not within an airport land use plan area or within two miles of a public use airport. Federal Aviation Regulation 77.23 generally requires a 200-foot height restriction for development in a height restriction zone. The project site is not in a height restriction zone, and the proposed gymnasium would not exceed 35 feet. No impact would occur, and no mitigation measures are required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not in the vicinity of any private airstrip. One private heliport—Toyota Helistop—is about 1.3 miles southeast of the project site. Based on its distance from the school, the heliport is not expected to impact the project site. The nearest private airport is the Goodyear Blimp Base, approximately 2.8 miles to the southwest, but blimp operations are relatively infrequent and generally do not direct air traffic over the project site. The proposed project would have no impact on any private airstrip operations and would not result in a safety hazard for people working or residing in the project area. No impact would occur, and no mitigation measures are required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project would not conflict with any adopted emergency response or evacuation plans. The project site's surrounding roadways would continue to provide emergency access through the project area and to surrounding properties during the project's construction. The proposed project would not necessitate any offsite roadway modification. If temporary closure of a street is required, the project's contractor would be required to provide the city with a construction schedule and plans for the closure of the street and to ensure that the placement of construction materials and equipment do not obstruct a detour route. The contractor would be required to comply with recommendations from the Torrance Fire Department for reducing impacts to emergency response or evacuation plans. Onsite emergency response would continue to be facilitated through the use of the site's driveways, parking lot, and paved areas. Adequate fire lanes from and to the gymnasium would be provided. No significant impacts would occur as a result of project development, and no mitigation measures are required.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The proposed project site is in a developed urban community, and no significant areas of brush, grass, trees or other natural fuel sources that may present a significant fire hazard are close to the site. The project site is not in a fire hazard area delineated by the Torrance General Plan. No impact would occur, and no mitigation measures are required.

5.9 HYDROLOGY AND WATER QUALITY

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?			X	

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Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j) Expose people or structures to inundation by seiche, tsunami, or mudflow?			X	

Comments:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The project site is in the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). Drainage and surface water discharges from the proposed project would not violate any water quality standards or waste discharge requirement. However, site preparation and other soil-disturbing activities during construction of the project could temporarily increase the amount of soil erosion and siltation entering the local stormwater drainage system.

The area to be disturbed by the proposed project is 0.35 acre of the 10-acre campus. Pursuant to Section 402 of the Clean Water Act, the EPA has established regulations under the NPDES program to control direct stormwater discharges. In California, the State Water Resources Control Board administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, including construction activities for sites larger than one acre. Implementation of the proposed project would disturb less than one acre; therefore, the proposed project would not be subject to the NPDES permit requirements. Although no grading permits are required from the city, it is standard practice for the District's retained contractors to implement appropriate best management practices (BMPs) to control erosion and prevent any discharge of sediments from the site. The City of Torrance has the standards for projects where compliance with the NPDES is not required, and the District would use similar practices to manage stormwater runoff during construction.

- Retain onsite the sediments generated on or brought to the project site, using treatment control or structural BMPs.

- Retain construction-related materials and wastes, spills, and residues at the project site and prevent discharges to streets, drainage facilities, the MS4, receiving waters, or adjacent properties.

- Contain nonstorm runoff from equipment and vehicle washing at the project site.

- Control erosion from slopes and channels through BMPs such as: limitation of grading during the wet season; inspection of graded areas during rain events; planting and maintenance of vegetation on slopes, if any; and covering any slopes susceptible to erosion.

The proposed project would disturb approximately 0.35 acre, and implementation of standard BMPs would ensure that construction activities do not violate any applicable water quality standards or waste discharge requirement. No surface discharges during operation of the proposed project would occur other than routine cleaning and maintenance of the grounds, which would be conducted to avoid discharge into storm drains. Impacts would not be significant, and no mitigation measures are required.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The project site is in the West Coast Groundwater Basin and is already served by the California Water Services Company's (CWSC) Rancho Dominguez District. Approximately 31 percent to 40 percent of the Rancho Dominguez District's water supply was projected to come from groundwater between planning year 2015 to 2040 (CWSC 2011). The proposed project would convert approximately 0.35 acre of pervious area to impervious area. However, the project site is part of a developed school campus and not a substantial groundwater recharge area. The project site does not have any wells or direct groundwater connections. Therefore, project implementation would not result in net deficit in aquifer volume or a lowering of the local groundwater table. No direct impacts to groundwater would occur. The proposed facility would accommodate existing school programs and the school population; therefore, it would not result in a substantial increase in potable water use to impact groundwater supplies. Implementation of the proposed project would not substantially interfere with groundwater recharge. No significant impacts to the local groundwater table would result from project implementation. Impacts would not be significant, and no mitigation measures are required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. The project site consists of pervious turf and is part of an existing campus with available stormwater connection. The proposed project would connect to existing drainage system and would not substantially alter drainage patterns or increase stormwater runoff to drainage facilities.

Additionally, implementation of applicable BMPs discussed in Section 5.9 (a) would ensure that erosion or siltation impacts are reduced to a less than significant level. No mitigation measures are required.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less Than Significant Impact. The project site is part of a middle school campus with available stormwater connection. The slight increase in impervious area on the campus would not substantially alter drainage patterns or substantially increase stormwater runoff to existing drainage facilities. Drainage from the project site would continue to flow into existing storm drain systems, with no substantial increase in stormwater runoff. Implementation of the proposed project would not cause a substantial alteration to the drainage pattern that could result in on- or offsite flooding. Impacts would not be significant, and no mitigation measures are required.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The proposed project would slightly increase the volume and rate of stormwater flow and contribute additional sources of polluted runoff to the drainage system. However, implementation of required BMPs during construction would ensure that impacts are reduced to a less than significant level. During operation, the proposed gymnasium would generate similar urban runoff pollutants as other on-campus buildings and would not result in substantial additional sources of polluted runoff. Impacts would not be significant, and no mitigation measures are required.

f) Otherwise substantially degrade water quality?

No Impact. Provided that standard BMPs are implemented, as discussed in Sections 5.9 (a), the proposed project would not substantially degrade the water quality. No additional mitigation measures are required.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project site is outside of 100-year flood zones, and the project would not develop housing. The project is in Federal Emergency Management Agency (FEMA) Flood Zone X, 0.2 percent annual chance flood hazard zone (Flood Insurance Rate Map ID# 06037C1930F) (FEMA 2008). No impact would occur, and no mitigation measures are required.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project site is outside of 100-year flood zones, and no impact would occur. No mitigation measures are required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project site is not identified as a potential flooding area in the City of Torrance General Plan Safety Element Flood Hazard Map. The proposed project would not increase the flooding hazard on the campus and would not expose people or structures to a significant risk of loss, injury, or death involving flooding. No impact would occur, and no mitigation measures are required.

j) Expose people or structures to inundation by seiche, tsunami, or mudflow?

No Impact. Development of the proposed project would not result in any flood hazards arising from a seiche, tsunami, or mudflow.

- **Seiche.** A seiche is a surface wave created when an inland water body is shaken, usually by earthquake activity. There are no inland water bodies near the project site that could pose a flood hazard to the site due to a seiche. No impact would occur, and no mitigation measures are required.

- **Tsunami.** A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The project site is 4.85 miles inland; therefore, project development would not cause any tsunami-related flood hazard. No impact would occur, and no mitigation measures are required.

- **Mudflow.** A mudflow is a landslide composed of saturated rock debris and soil with a consistency of wet cement. There are no substantial slopes on or next to the site that could pose a mudflow hazard to the site.

No impact related to site inundation by seiche, tsunami, or mudflow would occur. No mitigation measures are required.

5.10 LAND USE AND PLANNING

Would the project:

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Physically divide an established community?				X
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Comments:

a) Physically divide an established community?

No Impact. The proposed project would be built within the existing CMS campus and would not physically divide an established community. No impact would occur, and no mitigation measures are required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project site is designated Public/Quasi-Public/Open Space by the City of Torrance General Plan and Public Use (PU) by the zoning map. In the PU zoning district, all offices and facilities owned by or operated by public school districts are permissible. The project site is on the existing CMS campus, and the new gymnasium would serve the existing CMS programs and students. Implementation of the proposed project would not conflict with any applicable land use plans or regulations. No impact would occur, and no mitigation measures are required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The project site is part of an existing school campus and not within a Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan. No impact would occur, and no mitigation measures are required.

5.11 MINERAL RESOURCES

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X

Comments:

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 City of Torrance has mapped its mineral resources pursuant to the California Surface Mining and Reclamation Act of 1975. Four mineral resource zones (MRZ) classify sand, gravel, and crushed rock resources (Torrance 2010):

- **MRZ-1.** Adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2.** Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- **MRZ-3.** The significance of mineral deposits cannot be determined from the available data.
- **MRZ-4.** There is insufficient data to assign any other MRZ designation.

The project site is in the MRZ-1, and no impact to a known mineral resource would result from project implementation. No impact would occur, and no mitigation measures are required.

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. The project site is designated MRZ-1 and is not a locally important mineral resource recovery site, as delineated in the City of Torrance General Plan. Implementation of the proposed project would not result in the loss of availability of a locally important mineral resource. No impact would occur, and no mitigation measures are required.

5.12 NOISE

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and the City of Torrance have established criteria to protect public health and safety and to prevent disruption of certain human activities. Characterization of noise and vibration, existing regulations, and pertinent calculations for construction noise and vibration levels can be found in Appendix B to this Initial Study.

Terminology and Noise Descriptors

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

- **Equivalent Continuous Noise Level (L_{eq}).** The energy-average noise level over a specified measurement period (typically one hour). The L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

- **Statistical Sound Level (L_n).** The statistical sound levels, or *n*-exceeded sound levels, are noise metrics that represent fractional percentages of the measurement period that are exceeded for 'n' percent of the time. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time (i.e., half the time the noise level exceeds this level and half the time the noise level is less than this level) or 30 minutes in an hour. Similarly, the L_{02}, L_{08}, and L_{25} represent the noise levels that are exceeded 2, 8, and 25 percent of the time, respectively (or 1, 5, and 15 minutes per hour). These statistical sound levels are typically used to demonstrate compliance with a noise ordinance for stationary noise sources.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels during a 24-hour period, with 5 dB added from 7:00 PM to 10:00 PM and 10 dB added from 10:00 PM to 7:00 AM.

5.12.1 Existing Conditions

The noise environment around the school site is dominated by traffic flows on Artesia Boulevard and Casimir Avenue. Aircraft overflights from Hawthorne Airport, Torrance Airport/Zamperini Field, Compton Airport, and Los Angeles International Airport also contribute to overall community noise levels. Other noise sources include nearby residential and commercial uses and more distant roadway noise.

Applicable Noise and Vibration Regulations

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

Operational/Long-Term Regulations

The City of Torrance's noise element, a component of the general plan, sets goals and policies to minimize adverse noise impacts and preserve the high quality of life for residents. The goals of the noise element are implemented and enforced through the municipal code.

Torrance's noise ordinance is designed to protect people from non-transportation noise sources such as music, construction activity, machinery and pumps, and air conditioners. Enforcement of the ordinance ensures that adjacent properties are not exposed to excessive noise from stationary sources. It is unlawful to produce noise that exceeds the limits in section 46.7.2 of the municipal code.

The municipal code establishes noise limits in most residential areas of 50 to 55 dB between 7 AM to 10 PM, and 45 to 50 dB between 10 PM to 7 AM, depending on location. The four receiver regions established by the municipal code are described below, and the different noise regulations are shown in Tables 6 and 7.

- **Region 1** includes the predominantly industrial areas in and around the refineries and industrial uses on the western edge of the city.
- **Region 2** includes the area in and around the airport and includes the commercial and industrial uses south of Lomita Boulevard and north of Pacific Coast Highway.
- **Region 3** encompasses the residential neighborhoods south of Pacific Coast Highway and west of Hawthorne Boulevard.
- **Region 4** includes the remainder of the city.

For receivers on residential land in Regions 3 and 4 who are 500 feet or more from Region 1 and Region 2, noise limits are shown in Table 6, *Noise Level Limits for Residential Receivers*. For receivers in Regions 3 and 4 who are closer than 500 feet from Region 1 or 2, noise limits are 5 dB above either the Table 6 levels or the ambient noise level, whichever is lowest. The regions and the 500-foot boundary zones are mapped on Exhibit A of section 46.7.2 of the municipal code, which is reproduced in Appendix B to this Initial Study.

Table 6 Noise Level Limits for Residential Receivers

Receiver Region	Noise Level (dB)	
	Day (7 AM to 10 PM)	Night (10 PM to 7 AM)
3 (Residential Neighborhoods South of Highway 1 and West of Hawthorne Blvd.)	50	45
4 (Remainder of City Not Included in Regions 1, 2, or 3)	55	50

Noise sources on industrial and commercial land are prohibited from producing noise levels at their boundaries above the thresholds in Table 7, *Noise Limits at Industrial and Commercial Boundaries*.

Table 7 Noise Limits at Industrial and Commercial Boundaries

Source Region	Noise Level (dB)	
	Day (7 AM to 10 PM)	Night (10 PM to 7 AM)
1 (Industrial Uses South of W. 190th Street)	70	65
2 (Surrounding Torrance Airport)	60	55
All Remaining Industrial Land Uses	60	55
All Commercial Land Use	60	55

5. Environmental Analysis

Additionally, noise sources on commercial and industrial land must not produce noise that exceeds the limits in Table 6 at residential receivers. Table 8, *Corrections to Noise Limits*, shows the adjustments to the limits in Tables 6 and 7 under certain conditions.

Table 8 Corrections to Noise Limits

Noise Conditions	Correction to Limits (dB)
1. Noise has a steady, audible tone, such as a whine, screech, or hum.	–5
2. Noise is a repetitive impulsive noise, such as hammering or riveting	–5
3. If the noise is not continuous, one of the following corrections to the limits shall be applied:	
a) Noise occurs less than 5 hours per day or less than 1 hour per night	+5
b) Noise occurs less than 90 minutes per day or less than 20 minutes per night	+10
c) Noise occurs less than 30 minutes per day or less than 6 minutes per night	+15
4. Noise occurs on Sunday morning (12:01 AM to 12:01 PM)	–5

In addition, any noise that disturbs the peace or quiet of a neighborhood or causes discomfort or annoyance to residents is prohibited.

Construction Noise Regulations

According to municipal code section 46.3.1, construction is allowed from 7:30 AM to 6:00 PM Monday through Friday and 9:00 AM to 5:00 PM on Saturdays. Construction is prohibited on Sundays and holidays, except between the hours of 10:00 AM to 4:00 PM for homeowners who reside at the property. Construction is allowed outside these hours as long as noise levels do not exceed 50 dB, as measured at property lines in or adjacent to a residential area, or a written request has been approved by the community development director. Except for emergencies, heavy construction equipment—pile drivers, mechanical shovels, derricks, hoists, pneumatic hammers, compressors—is prohibited from operating in or adjacent to a residential area without permission from the community development director.

Vibration Regulations

The Torrance Municipal Code does not have any standards regarding vibration. This analysis will use Federal Transit Administration criteria to evaluate potential vibration impacts.

Based on the FTA Noise and Vibration Impact Guidelines (FTA 2006), an impact would occur if construction activities generate vibration that is strong enough to physically damage buildings. The threshold for vibration-induced architectural damage is 0.2 peak particle velocity (PPV) in inches per second (in/sec) for typical wood-framed buildings. The threshold for human annoyance at residential receptors during the daytime is 78 VdB.

5.12.2 Impact Assessment

Would the project result in:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
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 expose people residing or working in the project area to excessive noise levels?				X
f) 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?				X

Comments:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact.

Project-Related Traffic Noise

The project would not increase enrollment at the school. Therefore, the project would not substantially increase the number of vehicle trips to or from the area. Traffic-induced noise levels would not change appreciably, and would be less than significant. No mitigation is required.

Stationary-Source Noise Impacts

Operation of the proposed project would include use of heating, ventilation, and air conditioning (HVAC) systems and other sources of mechanical noise. Mechanical systems would be installed to comply with the noise limits in the municipal code. Additionally, any mechanical system would generate the same type of noise already present in the general area and would be overshadowed by noise from Artesia Boulevard and Casimir Avenue. Therefore, use of such equipment would not substantially elevate average daytime or nighttime noise

levels in the vicinity of the project site, and noise impacts would be less than significant. No mitigation measures are required.

Project-Related Event Noise

Events would generate noise from use of the parking lot[12] and arrival and departure of attendees. However, noise generated from traffic on Artesia Boulevard and Casimir Avenue would remain the dominant noise source in the area and would mask noises generated by events in the gymnasium. New traffic from project-related event trips, if any, would not notably increase traffic flows on Artesia Boulevard, Casimir Avenue or other surrounding streets, and therefore would not cause perceptible noise increases at nearby homes. Noise impacts generated from use of the gymnasium would be less than significant. No mitigation measures are required.

Land Use Compatibility

The project site is on an existing school campus. The project would not increase enrollment at the school or change its basic function. Therefore, there would be no changes in land use or in noise compatibility due to project implementation. No mitigation would be required.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Operations-Phase Vibration

Project operations would not generate substantial levels of vibration since there are no significant vibration-generating sources as part of the project.

Construction-Phase Vibration

Construction activities can generate ground vibration that varies depending on the construction procedures, equipment used, and proximity to vibration-sensitive uses. Construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance. Such vibrations may have two types of potential impacts: (a) architectural damage to nearby buildings and (b) annoyance to vibration-sensitive receptors. Calculations for construction-generated vibration levels experienced by the nearest vibration-sensitive receptors are included in Appendix B.

The project would be constructed on the east side of campus. The project site is generally level, so relatively little heavy earthwork would be required. Thus, there would be limited use of vibration-inducing construction equipment such as bulldozers, graders, jackhammers, and loaders/backhoes. Construction would primarily employ equipment that would not generate substantial levels of vibration, including forklifts, cranes, and haul

[12] Parking lots typically generate noise from car horns, car engines, brakes and tires, automatic lock beeps, alarm horns/sirens, car radios, and people talking.

trucks. The use of high-vibration equipment, such as pile drivers or vibratory rollers, is not anticipated. Construction activities would start as early as February 2016 and would take approximately 16 months.

Table 9, *Typical Vibration Levels Produced by Common Construction Equipment Items*, shows the peak particle velocities of some common construction equipment and haul trucks (loaded trucks).

Table 9 Vibration Levels Produced by Common Construction Equipment

Equipment	Peak Particle Velocity in inches per second		
	at 25 ft.	at 50 ft.	at 150 ft.
Vibratory Roller	0.210	0.074	0.014
Large Bulldozer	0.089	0.031	0.006
Loaded Trucks	0.076	0.027	0.005
Jackhammer	0.035	0.012	0.002
Small Bulldozer	0.003	0.001	0.000

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment, 2006.

Vibration-Induced Architectural Damage

The threshold at which there is a risk of architectural damage to typical wood-framed buildings is 0.2 in/sec (FTA 2006). Building damage is not normally a factor unless the project requires blasting and/or pile driving (FTA 2006). No blasting, pile driving, or hard rock ripping/crushing activities would occur for the proposed project. Small construction equipment generates vibration levels less than 0.1 PPV in/sec at 25 feet away.

The nearest onsite (campus) sensitive uses to the gymnasium construction are classrooms at CMS, which are as near as 110 feet west of the project site boundary. Under the assumption that vibratory rollers would not be used, these classroom buildings would not be exposed to vibration levels in excess of the threshold. The nearest offsite structures north, west, south, and east of the project site are at least 75 feet away from the construction zone and would be exposed to vibration levels well below thresholds.

Since no vibration-intensive activities (such as pile driving) will take place, the maximum construction-related vibration level would be below the 0.2 PPV in/sec criteria for vibration-induced architectural damage at the nearby structures, and architectural-damage vibration impacts from construction would be less than significant.

Vibration Annoyance

The threshold for vibration annoyance at vibration-sensitive uses is 78 VdB. Vibration is typically noticed nearby when objects in a building generate noise from rattling windows or picture frames. It is typically not perceptible outdoors, and therefore impacts are based on the distance to the nearest building (FTA 2006). The effect on buildings near a construction site depends on soil type, ground strata, and receptor building construction. Vibration can range from no perceptible effects at the lowest levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight damage at the highest levels.

5. Environmental Analysis

Vibration dissipates quickly with distance, and vibration levels from most construction equipment (excluding vibratory rollers and pile drivers) fall below the annoyance threshold of 78 VdB at a distance of 75 feet. Since the use of vibratory rollers or pile drivers is not anticipated during project construction and the nearest offsite receptors are at least 75 feet from the construction zone, vibration levels at offsite receptors would be below the threshold for vibration-induced annoyance. The nearest classrooms are at least 110 feet from the project site and therefore would not experience vibration levels in excess of 78 VdB. Thus, no notable vibration annoyance impacts would be expected at either offsite or onsite receptors.

Given the relatively large distances to offsite and onsite receptors, construction vibration impacts related to annoyance would be less than significant.

Vibration Summary

In summary, both construction and operations activities would not create substantial groundborne vibration or groundborne noise. This impact would be less than significant, and no mitigation measures are required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. As described in section 5.12.2a, above, increases in operational noise levels related to the proposed project would not substantially affect the existing noise environment. Therefore, permanent noise impacts would be less than significant, and no mitigation measures are required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. Construction noise is caused by construction-related traffic on roads and construction equipment operating at the project site.

Construction Traffic Impacts

Construction-related traffic can generate noise that affects uses along roadways. However, the proposed project would not require substantial site preparation—the site is generally flat, and the project would not require excavation underground—so the number of vendor and haul truck events would be negligible. Therefore, construction-related traffic would not create perceptible noise impacts at noise-sensitive uses along nearby roads.

Construction Activity Impacts

According to the city's noise ordinance, construction is only allowed between 7:30 AM and 6:00 PM on weekdays and between 9:00 AM and 5:00 PM on Saturday. Although project construction would temporarily increase ambient noise, noise levels would subside again after construction.

Typically, demolition and grading activities generate the loudest noise because they involve the biggest equipment. However, the project site is generally level, so very little heavy earthwork would be required. In general, construction equipment for the project would be limited to relatively small equipment such as

delivery/dump trucks, loaders/backhoes, a rubber-tired dozer, a grader, a forklift, and a crane. The total duration for construction of the gymnasium would be approximately 16 months.

As shown in Table 10, *Typical Construction Equipment Noise Levels*, operational noise levels of most construction equipment range between 80 and 88 dBA at 50 feet. Construction equipment typically moves around on the project site and uses various power levels. Noise from localized point sources (such as construction equipment) decreases by approximately 6 to 7.5 dB with each doubling of distance between the source and receptor.[13] For example, a dozer that generates 85 dBA at 50 feet would measure 79 dBA at 100 feet, 73 dBA at 200 feet, 67 dBA at 400 feet, and 61 dBA at 800 feet (at –6 dB per doubling).

Table 10 Typical Construction Equipment Noise Level

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 ft.)	Suggested Maximum Sound Levels for Analysis (dBA at 50 ft.)
Jack Hammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Dozers	77–90	85
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoe	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: Bolt, Beranek & Newman; Noise Control for Buildings and Manufacturing Plants, 1987.

The nearest offsite receptors would be the single-family residences to the north on 171st Street, approximately 75 feet from the project boundary; apartments on Artesia Boulevard approximately 290 feet to the south; homes on Spinning Avenue approximately 430 feet to the east; and homes on Casimir Avenue approximately 600 feet to the west. Equipment operates intermittently and moves around; therefore, noise would also be intermittent as well as temporary during the construction period. The heaviest and loudest equipment would be used during the site preparation and grading phases. Assuming a worst-case grading phase, with two pieces of earthmoving equipment (e.g., backhoes, loaders), a grader, and a dozer, and

[13] As sound energy travels outward from the source, spreading loss accounts for a 6 dB decrease in noise level. Soft ground and atmospheric absorption effects can decrease this by an additional 1.5 dB.

assuming that all equipment operates simultaneously in the center of the site, the noise levels would be 77 dBA L_{eq} at the homes on 171st Street, 68 dBA L_{eq} at the apartments on Artesia Boulevard, 65 dBA L_{eq} at the homes on Spinning Avenue, and 63 dBA L_{eq} at the homes on Casimir Avenue. Subsequent phases would mostly use lighter equipment—such as forklifts, cranes, welders, and compressors—so the noise levels would be less than for site preparation and grading. While construction-related noise levels would elevate the community noise environment around the campus, the attenuation provided by the distances to these offsite receptors, coupled with activities being conducted during the least sensitive portions of the day, would result in construction noise being less than significant at offsite receptors, and no mitigation would be required.

However, construction activities may take place while school is in session, and student learning activities at nearby buildings may be affected by construction noise. Due to the proximity of the nearest school buildings (as close as 105 feet from the construction zone), construction noise would reach up to 75 dBA L_{eq} during grading, and 70 dBA L_{eq} during remaining phases, which may interfere with school learning activities. Because of this potential exposure of students and faculty to elevated construction noise levels, the District would ensure reasonable learning environments by relocating classes to facilities that are more distant from the construction site or do not face the site, conducting activities outside of normal teaching hours, or installing a temporary sound blanket along the building façade facing the site. These strategies—detailed in the following Project Design Feature (PDF)—would reduce potential noise effects to students and faculty during construction.

Project Design Features

A During all phases of construction, one of the following measures will be taken:

(1) Limit the operation of construction equipment at the construction zone to outside school instructional hours (i.e., after school is released in the afternoon or during extended breaks).

OR

(2) Relocate students to campus facilities that are at least 150 feet from the edge of the construction zone or do not face the construction site,

OR

(3) Erect a temporary noise barrier/curtain between the construction zone and all classrooms. The temporary sound barrier shall have a minimum height of 12 feet and be free of gaps and holes and must achieve a Sound Transmission Class (STC) of 35 or greater. The barrier can be (a) a ¾-inch-thick plywood wall OR (b) a hanging blanket/curtain with a surface density or at least 2 pounds per square foot (Thalheimer 2000). For either configuration, the construction side of the barrier shall have an exterior lining of sound absorption material with a Noise Reduction Coefficient (NRC) rating of at least 0.7.

With the application of the PDF, construction noise impacts to onsite noise-sensitive receptors would be less than significant, and no mitigation measures are required.

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 expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest airport is Hawthorne Municipal Airport, a general aviation airport 3.5 miles north of the project site. Other nearby airports are Compton/Woodley Airport (4.25 miles northeast), Torrance Airport/Zamperini Field (4.8 miles southwest), and Los Angeles International Airport (6.4 miles northwest). However, the project site is outside any airport's influence area and 65 dBA CNEL noise contours. No impact would occur, and no mitigation is required.

f) 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 site is not in the vicinity of a private airstrip and would not expose people to excessive, airstrip-related noise. The nearest private airport is the Goodyear Blimp Base, approximately 2.8 miles to the southwest; blimp operations are relatively infrequent and generally do not direct air traffic over the project site that could cause noise impacts. The nearest heliport is the Toyota Helistop, 1.3 miles to the southeast, but the heliport does not direct air traffic over the project site. Therefore, the proposed project would not expose students and staff to excessive noise from aircraft at this heliport. No impact would occur, and no mitigation is required.

5.13 POPULATION AND HOUSING

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Comments:

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 intent of the project is to better serve existing CMS programs and students. Implementation of the proposed project would not result in population growth in the area, directly or indirectly. No impact would occur, and no mitigation measures are required.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would be on the existing CMS campus, and no housing units would be displaced. No replacement housing construction is necessary, and no impact would occur. No mitigation measures are required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would be on the existing CMS campus, and no people would be displaced by project implementation. No replacement housing construction is necessary. No impact would occur, and no mitigation measures are required.

5.14 PUBLIC SERVICES

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:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Comments:

a) Fire protection?

Less Than Significant Impact. Fire protection and emergency medical services for CMS are provided by the City of Torrance Fire Department (TFD). The nearest fire station, TFD Station No. 3, is 4,000 feet to the southwest of the school at 3535 W 182nd Street. Two fire stations operated by the Los Angeles County Fire Department (Station No. 79 and Station No. 158) are also nearby. The new gymnasium would have seating for 300 spectators, but would only accommodate existing activities and programs. It would not increase enrollment capacity at CMS or substantially increase community use of the school. Therefore, the proposed project would not substantially increase demands for fire or emergency services or generate the need for additional fire department facilities.

The final design of the proposed gymnasium would be reviewed for consistency with applicable code requirements. The Division of the State Architect would assess the facility's structural safety and evaluate its compliance with state fire and building codes (Title 24, California Code of Regulations). TFD would also evaluate the proposed site plan for emergency access, fire hydrant placement, and water flow. Impacts to fire protection services would be less than significant, and no mitigation measures are required.

b) Police protection?

Less Than Significant Impact. Law enforcement and police protection services at CMS are provided by the City of Torrance Police Department (TPD). TPD operations are based at 3300 Civic Center Drive, 2.5 miles southwest of the project site. The demand for police protection services generally corresponds to population. Since the proposed project would not increase the student population or substantially intensify use of the campus, project implementation would not substantially increase the demand for police services or generate a need for additional law enforcement facilities. Impacts to police protection services would be less than significant, and no mitigation measures are required.

c) Schools?

No Impact. The proposed gymnasium would have a beneficial impact on CMS by providing a new venue for existing activities and programs. The proposed facility does not include classrooms and would not increase the school's enrollment capacity or community use of the school facilities. Implementation of the proposed project would not adversely impact the provision of school services by TUSD or require the construction of additional instructional space. No impact would occur, and no mitigation measures are required.

d) Parks?

No Impact. Impacts to parks are generally caused by population or employment growth. However, the proposed project would mainly accommodate existing activities, programs, and students. The project would not increase student enrollment at CMS, increase community use of school facilities, add new residents to the area, or increase use of neighborhood or regional parks. The proposed gymnasium would displace turf near the back of the campus that is part of a multipurpose sports field. However, upon construction of the gymnasium, the remaining expanse of turf would be large enough for sports activities and the school's

physical education program. Implementation of the proposed project would not adversely impact parks in the school's surrounding vicinity, and no mitigation measures are required.

e) Other public facilities?

No Impact. The proposed gymnasium would accommodate existing programs and activities at CMS. The project would not increase enrollment at the school or otherwise induce population growth in the area. Therefore, no adverse impact to public facilities, such as library facilities, would occur. No mitigation measures are required.

5.15 RECREATION

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Comments:

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 demand for recreational facilities increases with growth-inducing projects that increase population, such as residential development. The proposed project would serve the existing programs and students of the middle school. No additional population would be generated, and the proposed project would not increase the use of recreational facilities. No impact would occur, and no mitigation measures are required.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The proposed project involves construction of a gymnasium, increasing the recreational facilities capacity of the existing middle school. Although the proposed project would slightly reduce the turf playfield area of the middle school, the remaining area provides adequate green space for students, and no replacement playfield or other recreational facilities would be necessary. The proposed project would not

result in adverse physical effect on the environment other than discussed throughout this Initial Study. No impact would occur, and no mitigation measures are required.

5.16 TRANSPORTATION/TRAFFIC

Would the project:

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?				X
e)	Result in inadequate emergency access?				X
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X
g)	Result in inadequate parking capacity?			X	

Comments:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant Impact. The proposed gymnasium would have pull-out bleachers for seating up to 300 spectators. Typically, a new facility where people congregate would generate new vehicle trips. However, the new gymnasium would serve the school's existing physical educational program and would not significantly change operations at CMS. CMS currently holds performances and assemblies in the school's multipurpose room, including Back to School Night, Open House, awards ceremonies, plays, and talent

shows. Such events take place both during school hours and in the evenings. With the implementation of the proposed project, school performances and assemblies could now be held in the gymnasium. Evening events would typically start after after-school clubs and enrichment programs end at 6:00 PM—that is, after PM peak hour traffic. The new gymnasium would accommodate the activities already held at the school's multipurpose room. Therefore, the proposed project would not generate a substantial number of new vehicle trips.

The gymnasium would be available for community use only through the Civic Center Act, and no formal joint-use programs are proposed. Any such use would be outside of school hours on weekday evenings and on weekends. After-school clubs and enrichment programs are offered until 6:00 PM, and it is expected that any community use of the proposed gymnasium would be after 6:00 PM—that is, after PM peak hour traffic. Therefore, no significant vehicle trips are anticipated from community use of the gymnasium.

The proposed project would not create new programs or substantially expand the school's operations to generate a substantial number of new vehicle trips. Therefore, the proposed project would not adversely impact the area circulation system, and impacts would be less than significant. No mitigation measures would be required.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact. The Los Angeles County Metropolitan Transportation Authority implements the County's Congestion Management Program (CMP) for a system of arterial roadways and freeways. The CMP for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. The nearest CMP intersection to the project site is Western Avenue (State Route 213) at the I-405 freeway, 1.1 miles to the southeast.

As discussed in response a), the project would not alter traffic patterns in the vicinity of the school or cause a substantial increase in traffic volumes. Therefore, analysis of traffic impacts to CMP roadways is not required. Impacts would be less than significant, and no mitigation measures are required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The nearest airport is the Hawthorne Municipal Airport, 3.5 miles north of the project site. The proposed building would be 34 feet high (see Section 3.1) and would not interfere with air travel or air safety. In addition, the project would not increase demand for air travel or increase air traffic levels. No impact would occur, and no mitigation measures are required.

d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

No Impact. The project would be accessed via existing driveways and would not change their layout. It would not add incompatible uses to area roadways or increase hazards due to a design feature. No impact would occur, and no mitigation measures are required.

e) Result in inadequate emergency access?

No Impact. The project would not change the layout of existing access driveways and would not result in congestion on roadways. It would not impede emergency access to the project site or to the surrounding community. No impact would occur, and no mitigation measures are required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact. The nearest public transit bus services to CMS are the Los Angeles County Metropolitan Transportation Authority (Metro) Lines 130 and 344, which operate on Artesia Boulevard, and Torrance Transit Route 5 on Van Ness Avenue about 300 feet to the east (Metro 2014a). The nearest bicycle facility to the school mapped on the Metro Bike Map is a signed bicycle route on Van Ness Avenue about 300 feet to the east (Metro 2014b). There are sidewalks on both sides of the segments of Casimir Avenue and Artesia Boulevard fronting the school. The proposed building would be near the northern boundary of the site. It would not block sidewalks or interfere with transit bus operations or planned bicycle facilities. Operation of the project would not compromise alternative modes of transportation. Therefore, impacts to alternative modes of transportation and public transit facilities would be less than significant. No mitigation measures are required.

g) Result in inadequate parking capacity?

Less Than Significant Impact. CMS currently holds performances and assemblies such as plays, talent shows, Back to School Night, Open House, and awards ceremonies in the school's multipurpose room. With project implementation, these activities would be held in the new gymnasium. As discussed in response a), the proposed gymnasium would accommodate CMS's existing programs and activities and would not generate a substantial number of new vehicle trips. Moreover, the proposed project would not displace any existing parking spaces on campus. Therefore, no increase in parking demand would be generated by the proposed project. Any community use of the gymnasium would be limited by the Civic Center Act, Education Code section 38130-38139, and would be coordinated so that it would not coincide with regular operating hours of the school. Parking for the project would be accommodated by the existing onsite parking lots and surrounding roadways. The project would not result in inadequate parking capacity, impacts would be less than significant, and no mitigation measures would be required.

5. Environmental Analysis

5.17 UTILITIES AND SERVICE SYSTEMS

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?			X	
e) 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?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

Comments:

a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. The City of Torrance owns and operates the wastewater collection system that serves Torrance, including CMS. Wastewater in the city is conveyed to the Sanitation Districts of Los Angeles County (LACSD) network of sewer mains, which transports the wastewater to LACSD's Joint Water Pollution Control Plant (JWPCP) at 24501 S. Figueroa Street in the City of Carson. The JWPCP is one of the largest wastewater treatment plants in the world and provides primary and secondary treatment of approximately 280 million gallons of wastewater per day (mgd). The plant is permitted to treat up to 400 mgd (LACSD 2015). Torrance is in State Water Resources Control Board Region 4, which is under the jurisdiction of the LARWQCB.

The proposed gymnasium would accommodate existing school programs and activities that already take place on the campus. The facility would not include restrooms or showers. Therefore, the little, if any, wastewater effluent associated with operation of the gymnasium would not substantially increase pollutant loads or change the nature of pollutant loads in a way that would conflict with LARWQCB regulations or treatment

requirements. In addition, the proposed project would not induce population growth, and therefore would not indirectly contribute to increased pollutant loads. Impacts would be less than significant, and no mitigation measures are required.

b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The CMS campus is currently connected to municipal water distribution and wastewater collection systems. Onsite water and wastewater lines would not be resized or reoriented because the proposed gymnasium would not have restrooms or showers. Users of the facility would use existing restrooms in the adjacent school building. Therefore, implementation of the proposed project would not require expansion of water or wastewater treatment facilities. Impacts would be less than significant, and no mitigation measures are required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. See Sections 5.9 (a) through (e). The CMS campus's storm drainage system ties into the municipal system. The proposed 7,500-square-foot building would displace pervious turf, potentially increasing localized stormwater runoff. However, the facility would be surrounded by turf on three sides, and existing drainage patterns would continue. Any increase in stormwater would be minimal, and stormwater flows at buildout of the proposed project would be similar to existing conditions. Drainage from the project site would continue to flow into existing storm drain systems, with no substantial increase in stormwater runoff. Impacts associated with any modification of the onsite storm drainage system would be minimal and are analyzed throughout this Initial Study. Impacts would be less than significant, and no mitigation measures are required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. Four water purveyors provide water service in Torrance. CMS is served by Torrance Municipal Water Department (TMWD). TMWD is a division of the City of Torrance Public Works Department. According to the City of Torrance Urban Water Management Plan (UWMP), approximately 83 percent of TMWD's potable water supplies consist of imported water from northern California and the Colorado River purchased from the Metropolitan Water District of California (MWD). Remaining supplies consist of potable groundwater pumped in the city and brackish groundwater treated at the Goldsworthy Desalter Project, which is operated by the Water Replenishment District of Southern California. The TMWD forecasts that in normal water year conditions over the 2015–2035 period, its total potable water supplies will remain constant at 29,007 acre-feet per year (afy), and total potable water demands in its service area will increase from 20,368 to 22,504 afy (SA Associates 2011). The difference between projected supply and demand indicates that there would be sufficient water to serve minor school improvement projects in TMWD's service area, such as the proposed gymnasium, in addition to projected growth.

5. Environmental Analysis

The UWMP was prepared prior to the current multi-year drought in California—which has severely impacted MWD's potable water supplies—and prior to the implementation of aggressive water conservation measures aimed at reducing the drought's impact. However, because the proposed gymnasium would accommodate programs currently held at CMS and would not have restrooms or showers, its operation would have a negligible impact on the school's use of water. Therefore, implementation of the proposed project would not require water providers to obtain new or expanded water supplies. Impacts would be less than significant, and no mitigation measures are required.

e) 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?

Less Than Significant Impact. See Section 5.17(b). The JWPCP is one of the largest wastewater treatment plants in the world and has the capacity to treat 220 million more gallons of wastewater a day than it currently treats. Impacts of the proposed project on LACSD's capacity to treat wastewater would be less than significant, and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. Solid waste collection service at CMS is provided by Consolidated Disposal Service, which is a subsidiary of Republic Services. Republic Services operates throughout Southern California and disposes solid waste at multiple locations in the region. However, most solid waste generated by TUSD schools is likely disposed at Sunshine Canyon Landfill, which is operated by Republic Services and located between the Sylmar district of Los Angeles and Santa Clarita. Torrance falls within the jurisdiction of the Los Angeles Regional Agency (LARA), a consortium of 17 cities in Los Angeles County that aggregate their solid waste disposal reporting. In 2013—the most recent year for which jurisdictional disposal data is available—39.1 percent of solid waste collected in the LARA region was disposed of at Sunshine Canyon Landfill (CalRecycle 2015a). The region's remaining solid waste was disposed of in substantially smaller amounts at 28 other landfills. The Sunshine Canyon Landfill has a maximum capacity of 12,100 tons per day, an average intake of approximately 9,000 tons per day (Republic Services 2015), and a remaining capacity of 96,800,000 cubic yards or 72,677,162 tons (CalRecycle 2015b). The landfill has an estimated closing date of 2037.

Most of the Department of Resources Recycling and Recovery's (CalRecycle) sample solid waste generation rates for public venues and institutions reflect the volume of refuse generated per student, employee, or visitor (CalRecycle 2013). Because the proposed gymnasium would accommodate existing programs and activities and would not increase the student or employee population at CMS, the facility would not generate additional solid waste using these metrics. However, an example rate for schools from 1991 uses a waste generation rate of 0.007 pounds per square foot per day (CalRecycle 2013). Using this metric, the 7,500-square-foot gymnasium would generate approximately 52.5 pounds of solid waste per day. This amount of additional refuse represents 0.0002 percent of Sunshine Canyon Landfill's daily intake capacity and could easily be accommodated by that facility. Therefore, project impacts on landfill capacity would be less than significant, and no mitigation measures are required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The following federal and state laws and regulations govern solid waste disposal. The EPA administers the Resource Conservation and Recovery Act of 1976 and the Solid Waste Disposal Act of 1965, which govern solid waste disposal. In the State of California, AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) required every California city and county to divert 50 percent of its waste from landfills by the year 2000 by such means as recycling, source reduction, and composting. In addition, AB 939 requires each county to prepare a countywide siting element specifying areas for transformation or disposal sites to provide capacity for a 15-year period for solid waste generated in the county that cannot be reduced or recycled. AB 1327, the California Solid Waste Reuse and Recycling Access Act of 1991, requires local agencies to adopt ordinances mandating the use of recyclable materials in development projects.

Solid waste would be generated during construction and operation of the proposed project. TUSD would comply with all county and state solid waste diversion, reduction, and recycling mandates, including the Countywide Integrated Waste Management Plan. To reduce the amount of waste going into local landfills from schools, the state passed the School Diversion and Environmental Education Law, SB 373, which required CalRecycle to develop school waste reduction tools for use by school districts. In compliance with this law, CalRecycle encourages school districts to establish and maintain a paper recycling program in all classrooms, administrative offices, and other areas owned and leased by the school district. Participation in this and other such programs would reduce solid waste generated from the proposed project and assist in compliance with AB 939.

To the extent feasible, TUSD and its construction contractor would make every reasonable effort to reuse and/or recycle the construction debris that would otherwise be taken to a landfill. They would dispose of hazardous wastes, including paint used during construction, only at facilities permitted to receive them and in accordance with local, state, and federal regulations. The proposed project would comply with all applicable federal, state, and local statues and regulations related to solid waste disposal. No significant impacts would result from implementation of the proposed project, and no mitigation measures are necessary.

5. Environmental Analysis

5.18 MANDATORY FINDINGS OF SIGNIFICANCE

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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, 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?		X		
b) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?		X		
c) 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.)		X		
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Comments:

a) Does the project have the potential to 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, 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?

Less Than Significant Impact With Mitigation Incorporated. The project site is in an urban setting and surrounded by roadways and built-out properties. The project site does not contain any special-status vegetation or animal species. Project development would not degrade the quality of the environment; reduce the population, range, or habitat of a species of fish or wildlife or a rare or endangered plant or animal species; and would not eliminate an important example of the major periods of California history or prehistory. Impacts to archaeological and paleontological resources would be less than significant after implementation of Mitigation Measure CUL-1. No additional mitigation is required.

b) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

Less Than Significant Impact With Mitigation Incorporated. After implementation of Mitigation Measure CUL-1 in Section 5.5, *Cultural Resources*, no significant impacts to short-term or long-term environmental goals would occur. No additional mitigation is required.

c) 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.)

Less Than Significant Impact With Mitigation Incorporated. After the imposition of CUL-1, no significant project-level or cumulative impacts would occur. The Torrance Unified School District is seeking approval for five other projects at District campuses as well as the present gymnasium project: auditoriums at three high schools, a gymnasium at another middle school, and an aquatics center near Shery Continuation High School. The shortest distance between any two of the six campuses is about one mile. Trip generation by the proposed facilities would be less than what is currently generated at the affected schools—for instance, by daily school operation and by stadium events. Thus, impacts of the six individual projects would not combine to result in significant cumulative impacts. With the mitigation identified in this Initial Study, the proposed project's impacts combined with the other five projects' impacts, as mitigated, would not be cumulatively considerable. Impacts would be less than significant, and no additional mitigation is required.

d) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. The proposed project would support the existing students and programs at CMS. As demonstrated in this Initial Study, the proposed development and operation of the gymnasium would not substantially increase environmental effects that would directly or indirectly affect human beings. No mitigation measures are required.

5. Environmental Analysis

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6. Summary Table of Mitigation Measures

The table below provides the mitigation measure, the responsible party and time frame for implementation, and the monitoring agency.

Table 11 Summary of Mitigation Measures

	Mitigation Measure	Responsible Party	Time Frame	Monitoring Party
CUL-1	Prior to the beginning of ground disturbances, Torrance Unified School District shall retain a qualified archaeologist/paleontologist to monitor all ground-disturbing activities that occur five feet below ground surface. The archaeologist shall meet the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register 44738-39). Before ground-disturbing activities begin, the archaeologist/paleontologist shall prepare an archaeological monitoring plan, consistent with CEQA Guidelines section 15064.5, specifying the frequency, duration, and methods of monitoring. The archaeologist/paleontologist shall train construction workers regarding types of archaeological and paleontological resources that could be identified in site soils. The archaeologist/paleontologist shall have the authority to stop grading or construction work within 25 feet of the site of any discovery of potential historical, archaeological, or paleontological resources until a find can be recovered and the significance of the find identified per CEQA. All resources recovered shall be curated at the facilities of the Natural History Museum of Los Angeles County.	▪ Torrance Unified School District ▪ Qualified archaeologist/paleontologist	Prior to the beginning of ground disturbances	Torrance Unified School District

6. Summary Table of Mitigation Measures

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Appendix A. Air Quality and Greenhouse Gas Background and Modeling Data

Appendix

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Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Climate/Meteorology

SOUTH COAST AIR BASIN

The project site lies within the South Coast Air Basin (SoCAB), which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is a coastal plain with connecting broad valleys and low hills. It is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site with temperature data is the Torrance AP Station (ID No. 048973). The lowest average low is reported at 44.3°F in January, and the highest average high is 78.6°F in August (WRCC 2015).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from October through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 13.55 inches per year in the project area (WRCC 2015).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

Air Quality Regulations

The proposed project has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD). However, SCAQMD reports to the California Air Resources Board (CARB), and all criteria emissions are also governed by the California and National Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state

to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" 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. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm[2]	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm[1]	
	24 hours	0.04 ppm	0.014 ppm[2]	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Lead (Pb)	Monthly	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 µg/m^3	
	3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles[1]	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2013a.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

1 When relative humidity is less than 70 percent.

2 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. 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.

3 On December 14, 2012, EPA lowered the federal primary PM2.5 annual standard from 15.0 µg/m3 to 12.0 µg/m3. EPA made no changes to the primary 24-hour PM2.5 standard or to the secondary PM2.5 standards.

CRITERIA AIR POLLUTANTS

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. VOC and oxides of nitrogen (NO_x) are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants. Description of the primary and secondary criteria air pollutants and their known health effects are presented below.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2014a).

Volatile Organic Compounds (VOC) are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of VOCs include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of ozone (O_3), SCAQMD has established a significance threshold for this pollutant (SCAQMD 2005).

Nitrogen Oxides (NO_x) are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_2 produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD

2005; EPA 2012a). The SoCAB is designated an attainment area for NO_2 under the National AAQS and California AAQS (CARB 2014a).

Sulfur Dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2 (SCAQMD 2005). When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. The SoCAB is designated as attainment under the California and National AAQS (CARB 2014a).

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading (i.e., fugitive dust). Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005).

The US Environmental Protection Agency's (EPA) scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. Diesel particulate matter (DPM) is classified by the CARB as a carcinogen. The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2014a).[1]

Ozone (O_3) is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O_3 has been tied to crop damage, typically in the form of stunted growth and premature death. O_3 can also act as a corrosive, resulting in property damage such as the

[1] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM_{10} standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

degradation of rubber products (SCAQMD 2005). The SoCAB is designated as extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2014a).

Lead (Pb) concentrations decades ago exceeded the state and federal AAQS by a wide margin, but have not exceeded state or federal air quality standards at any regular monitoring station since 1982 (SCAQMD 2005). However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources[2] recorded every localized violations of the new state and federal standards. As a result of these localized violations, the Los Angeles County portion of the SoCAB was designated in 2010 as nonattainment under the National AAQS for lead (SCAQMD 2012a; CARB 2014a). The project is not characteristic of industrial-type projects that have the potential to emit lead. Therefore, lead is not a pollutant of concern for the project.

TOXIC AIR CONTAMINANTS

The public's exposure to air pollutants classified as toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant (HAP) pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

[2] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 identified that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012a).

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Multiple Airborne Toxics Exposure Study (MATES)

In 2000, SCAQMD conducted a study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,400 in a million. The largest contributor to this risk was diesel exhaust, accounting for 71 percent of the air toxics risk. In October 2014, SCAQMD released the draft report of the fourth update (MATES IV) to its study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 418 in one million (SCAQMD 2014). Compared to the previous update released in 2008 (MATES III), monitored excess cancer risks decreased by approximately 65 percent. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk (SCAQMD 2014).

Air Quality Management Planning

SCAQMD is the agency responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2012 AQMP

On December 7, 2012 SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources. The plan also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone standards, and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the timeframes allowed under the Federal CAA. The plan demonstrates attainment of federal 24-hour $PM_{2.5}$ standard by 2014 and the federal 8-hour ozone standard by 2023. It includes an update to the revised EPA 8-hour ozone control plan with new

commitments for short-term NO_X and VOC reductions. In addition, it also identifies emerging issues of ultrafine ($PM_{1.0}$) particulate matter and near-roadway exposure, and an analysis of energy supply and demand.

LEAD STATE IMPLEMENTATION PLAN

In 2008 EPA designated the Los Angeles County portion of the SoCAB nonattainment under the federal lead (Pb) classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in Vernon and the City of Industry exceeding the new standard. The rest of the SoCAB outside the Los Angeles County nonattainment area remains in attainment of the new standard. On May 24, 2012, CARB approved the SIP revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to EPA for approval.

AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.

- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.

- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*. The SoCAB is designated in attainment of the California AAQS for sulfates. According to the 2007 AQMP, the SoCAB will have to meet the new federal 8-hour O_3 standard by 2024, $PM_{2.5}$ standards by 2015, and the recently revised 24-hour $PM_{2.5}$ standard by 2020. The SoCAB is designated nonattainment for lead (Los Angeles County only) under the National AAQS. Transportation conformity for nonattainment and maintenance areas is required under the Federal CAA to ensure federally supported highway and transit projects conform to the SIP. The EPA approved California's SIP revisions for attainment of the 1997 8-hour O_3 National AAQS for the SoCAB in March 2012. Findings for the new 8-hour O_3 emissions budgets for the SoCAB and for consistency with the adopted 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) were submitted to the EPA for approval.

Table 2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2014a.

[1] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas within the SoCAB are unclassified.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the SCAQMD. The project site is in Source Receptor Area (SRA) 3 – Southwest Los Angeles County Coastal. The air quality monitoring station closest to the project site is the Long Beach – 2425 Webster Street Monitoring Station. This station monitors O_3, CO, NO_2, and SO_2. Data for PM_{10} and $PM_{2.5}$ is supplemented by the North Long Beach Monitoring Station. The most current five years of data from these monitoring stations are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show occasional violations of the state O_3 standards, federal O_3 standards, and NO_2 standards in the last five years. The area consistently exceeds the federal $PM_{2.5}$ standard. The CO, SO_2, and PM_{10} standards have not been violated in the last five years.

Table 3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2010	2011	2012	2013	2014
Ozone (O_3)[1]					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	1	0	0	0	0
State 8-hour ≥ 0.07 ppm (days exceed threshold)	1	0	0	0	1
Federal 8-Hour > 0.075 ppm (days exceed threshold)	1	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.099	0.074	0.080	0.090	0.087
Max. 8-Hour Conc. (ppm)	0.084	0.064	0.067	0.070	0.072
Carbon Monoxide (CO)[1]					
State 8-Hour > 9.0 ppm (days exceed threshold)	0	0	0	*	*
Federal 8-Hour ≥ 9.0 ppm (days exceed threshold)	0	0	0	*	*
Max. 8-Hour Conc. (ppm)	2.60	3.31	2.57	*	*
Nitrogen Dioxide (NO_2)[1]					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	1	0	0	0	2
Max. 1-Hour Conc. (ppb)	117	90	97	81	135
Sulfur Dioxide (SO_2)[1]					
State 24-Hour ≥ 0.04 ppm (days exceed threshold)	0	0	0	*	*
Federal 24-Hour ≥ 0.14 ppm (days exceed threshold)	0	0	0	*	*
Max 24-Hour Conc. (ppm)	0.003	0.013	0.004	*	*
Coarse Particulates (PM_{10})[2]					
State 24-Hour > 50 µg/m³ (days exceed threshold)	0	0	0	0	0
Federal 24-Hour > 150 µg/m³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m³)	44	43	45	37	*
Fine Particulates ($PM_{2.5}$)[2]					
Federal 24-Hour > 35 µg/m³ (days exceed threshold)	0	1	4	2	2
Max. 24-Hour Conc. (µg/m³)	35.0	39.7	49.8	47.2	51.5

Source: CARB 2015
ppm: parts per million; parts per billion, µg/m³: micrograms per cubic meter
Notes: * Data not available.
[1] Data obtained from the Long Beach – 2425 Webster Street Monitoring Station.
[2] Data obtained from the North Long Beach Monitoring Station.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the

enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Methodology

Projected-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, distributed by the California Air Pollutant Control Officers Association (CAPCOA). CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, onroad emissions, and offroad emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The calculated emissions of the project are compared to thresholds of significance for individual projects using the SCAQMD's *CEQA Air Quality Analysis Guidance Handbook*.

Thresholds of Significance

The analysis of the proposed project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website.[3] CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed though an analysis of localized CO impacts and localized significance thresholds (LSTs).

REGIONAL SIGNIFICANCE THRESHOLDS

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 4, *SCAQMD Significance Thresholds*, lists SCAQMD's regional significance thresholds.

[3] SCAQMD's Air Quality Significance Thresholds are current as of March 2011 and can be found here: http://www.aqmd.gov/ceqa/hdbk.html.

Table 4 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: SCAQMD 2011.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQSs is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Typically, for an intersection to exhibit a significant CO concentration, it would operate at level of service (LOS) E or worse without improvements (Caltrans 1997). However, at the time of the 1993 SCAQMD *Handbook*, the SoCAB was designated nonattainment under the California AAQS and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined. In 2007, the SoCAB was designated in attainment for CO under both the California and National AAQS. The CO hotspot analysis conducted for the attainment by SCAQMD for busiest intersections in Los Angeles during the peak morning and afternoon periods plan did not predict a violation of CO standards. [4] As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions, not congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011).

LOCALIZED SIGNIFICANCE THRESHOLDS

SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at the project site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 5, *SCAQMD Localized Significance Thresholds*.

[4] The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

Table 5 SCAQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1]	2.5 µg/m^3

Source: SCAQMD 2011.
ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (pounds per day) of emissions generated onsite that would trigger the levels shown in Table 5 for projects under 5-acres. These "screening-level" LSTs tables are the localized significance thresholds for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.

LST analysis is applicable to all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required. In accordance with SCAQMD's LST methodology, construction LSTs are based on the acreage disturbed per day based on equipment use. The construction LSTs for the project site in SRA 3 are shown in Table 6, *SCAQMD Screening-Level Construction Localized Significance Thresholds*.

Table 6 SCAQMD Screening-Level Construction Localized Significance Thresholds

	Threshold (lbs/day)			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
≤1.00 Acre Disturbed Per Day	91	664	5	3

Source: SCAQMD 2008c, Based on receptors in SRA 3.
[1] LSTs are based on receptors within 82 feet (25 meters) and acreage disturbed of one acre or less.

Because the project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern associated with the project. The operational LSTs in SRA 3 are shown in Table 7, *SCAQMD Screening-Level Operational Localized Significance Thresholds*.

Table 7 SCAQMD Screening-Level Operational Localized Significance Thresholds

Air Pollutant	Threshold (lbs/day) Operational[1]
Nitrogen Oxides (NO_X)	194
Carbon Monoxide (CO)	1,769
Coarse Particulates (PM_{10})	4
Fine Particulates ($PM_{2.5}$)	2

Source: SCAQMD 2008c, Based on receptors in SRA 3.
[1] LSTs are based on receptors within 82 feet (25 meters) for a project site size of five acres.

HEALTH RISK THRESHOLDS

A project would expose sensitive receptors to elevated pollutant concentrations if it would place the project in an area with pollutant concentrations above ambient concentrations in the SoCAB. Recent air pollution studies have shown an association between proximity to major air pollution sources and a variety of health effects, which are attributed to a high concentration of air pollutants. Guidance from the CARB and the CAPCOA recommends the evaluation of vehicle-generated emissions when freeways are within 500 feet of sensitive land uses (i.e., residences, schools, daycare centers, and hospitals).

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 8, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the SCAQMD's TAC incremental risk thresholds for operation of a project. Residential, commercial, and office uses do not use substantial quantities of TACs, and these thresholds are typically applied for new industrial projects. Although not officially adopted by SCAQMD, these thresholds are also commonly used to determine air quality land use compatibility of a project with major sources of TACs within 1,000 feet of a proposed project. The proposed project is not a substantial generator of TACs that would require permitting by SCAQMD.

Table 8 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0

Source: SCAQMD 2011.

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. The primary source of GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor,[5] carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[6] The major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. It also results from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.

    - ***Chlorofluorocarbons (CFCs***) are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-

[5] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop o rather than a primary cause of change.

[6] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014b). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

- ***Perfluorocarbons (PFCs)*** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.

- ***Sulfur Hexafluoride (SF6)*** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

- ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.

- ***Hydrofluorocarbons (HFCs)*** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (IPCC 2001; EPA 2012).

GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 9, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2.[7]

[7] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Table 9 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	21	25
Nitrous Oxide (N_2O)	120	310	298
Hydrofluorocarbons:			
HFC-23	264	11,700	14,800
HFC-32	5.6	650	675
HFC-125	32.6	2,800	3,500
HFC-134a	14.6	1,300	1,430
HFC-143a	48.3	3,800	4,470
HFC-152a	1.5	140	124
HFC-227ea	36.5	2,900	3,220
HFC-236fa	209	6,300	9,810
HFC-4310mee	17.1	1,300	1,030
Perfluoromethane: CF_4	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	23,900	22,800

Source: IPCC 200; IPCC 2007.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 (radiative forcing is the difference of energy from sunlight received by the earth and radiated back into space). However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

1 Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2 (IPCC 2001 and IPCC 2007).

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

Regulatory Settings

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydro fluorocarbons, per fluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world (the first three are applicable to the proposed project).

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2 per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the CAA, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the EPA will be directed to also develop regulations for existing stationary sources.

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, and Senate Bill 375.

Executive Order S-3-05

Executive Order S-3-05, signed June 1, 2005. Executive Order S-3-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the State and requires state agencies to implement measures to meet the interim 2030 goal of Executive Order B-30-15 as well as the long-term goal for 2050 in Executive Order S-03-5. It also requires the Natural Resources Agency to conduct triennial updates the

California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in State planning and investment decisions.

Assembly Bill 32

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Assembly Bill 32 (AB 32), the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO_2e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 $MMTCO_2e$, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 $MMTCO_2e$) (CARB 2008).[8]

Since release of the 2008 Scoping Plan, CARB has updated the statewide GHG emissions inventory to reflect GHG emissions in light of the economic downturn and of measures not previously considered in the 2008 Scoping Plan baseline inventory. The updated forecast predicts emissions to be 545 $MMTCO_2e$ by 2020. The revised BAU 2020 forecast shows that the state would have to reduce GHG emissions by 21.7 percent from BAU. The new inventory also identifies that if the updated 2020 forecast includes the reductions assumed from implementation of Pavley (26 $MMTCO_2e$ of reductions) and the 33 per cent RPS (12 $MMTCO_2e$ of reductions) the forecast would be 507 $MMTCO_2e$ in 2020, and then an estimated 80 $MMTCO_2e$ of additional reductions are necessary to achieve the statewide emissions reduction of AB 32 by 2020, or a 15.7 percent of the projected emissions compared to BAU in year 2020 (i.e., 15.7 percent of 507 $MMTCO_2e$) (CARB 2012).

Key elements of CARB's GHG reduction plan that may be applicable to the project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).

[8] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).

- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (LCFS) (adopted 2009).

- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 10, *Scoping Plan Greenhouse Gas Reduction Measures and Reductions Toward 2020 Target,* shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. Although local government operations were not accounted for in achieving the 2020 emissions reduction, CARB estimates that land use changes implemented by local governments that integrate jobs, housing, and services result in a reduction of 5 $MMTCO_2e$, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role that local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.[9] Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer VMT (CARB 2008).

[9] The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state's GHG reduction target of AB 32.

Table 10 Scoping Plan Greenhouse Gas Reduction Measures and Reductions Toward 2020 Target

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO_{2e}	Percentage of Statewide 2020 Target
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations[2]	To Be Determined[2]	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB 2008. Note: the percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 $MMTCO_{2e}$ and the Scoping Plan identifies 174 $MMTCO_{2e}$ of emissions reductions strategies.

$MMTCO_{2e}$: million metric tons of CO_{2e}

1 Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target. A discussion of the regional targets for the Southern California Region and local land use changes recommended within the Southern California Association of Government's (SCAG) Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) are included later in this section.

2 According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_{2e} (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

2014 Scoping Plan Update

CARB recently completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The final Update to the Scoping Plan was released in May, and CARB adopted it at the May 22, 2014, board hearing. The Update to the Scoping Plan defines CARB's climate change priorities for the next five years and lays the

groundwork to reach post-2020 goals in Executive Orders S-3-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.4-1). IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 $MMTCO_2e$ (CARB 2014b).

The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the Update to the Scoping Plan also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a mid-term target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals (CARB 2014b).

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014a).

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the State. It is anticipated the Scoping Plan will be updated within the next five years to address the new 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030.

SB 375 – Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS)

In 2008, SB 375 was adopted and was intended to represent the implementation mechanism necessary to achieve the GHG emissions reductions targets established in the Scoping Plan for the transportation sector as it relates to local land use decisions that affect travel behavior. Implementation is intended to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations with local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a metropolitan planning organization (MPO). Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino County, Riverside, Ventura, and Imperial. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035.

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's existing transportation network. Adherence to the targets would result in 3 $MMTCO_2e$ reductions by 2020 and 15 $MMTCO_2e$ reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

SCAG 2012 RTP/SCS

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plan. For the SCAG region, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted April 2012 (SCAG 2012). The SCS sets forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavely I). Pavely I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavely I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Executive Order S-1-07

On January 18, 2007, the state set a new low carbon fuel standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

Senate Bills 1078 and 107, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. CARB has now approved an even higher goal of 33 percent by 2020. In 2011, the state legislature adopted this higher standard in SBX1-2. Executive Order S-14-08 was signed in November 2008, which expands the state's Renewable Energy Standard to 33 percent renewable power by 2020. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

California Building Standards Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2013 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[10] The

[10] The green building standards became mandatory in the 2010 edition of the code.

mandatory provisions of the California Green Building Code Standards became effective January 1, 2011 and were updated most recently in 2013.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[11]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

[11] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD identified a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal; and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

SCAQMD has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans).[12] The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[13]

For the purpose of this project, SCAQMD's project-level thresholds are used. If projects exceed the bright-line and per capita efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

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[12] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

[13] SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

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Regional Construction Emissions Worksheet

Mass Grading			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2016**						
	Fugitive Dust						0.3218	0.1769
	Off-Road		1.3122	11.2385	8.7048	0.012	0.8039	0.7674
	Total		**1.3122**	**11.2385**	**8.7048**	**0.012**	**1.1257**	**0.9442**
Offsite								
	Hauling		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Vendor		0.0372	0.3588	0.4951	0.0009	0.0305	0.0122
	Worker		0.0232	0.0311	0.3257	0.00069	0.0564	0.0153
	Total		**0.0604**	**0.3899**	**0.8208**	**0.00156**	**0.0869**	**0.0275**
TOTAL			***1.3726***	***11.6284***	***9.5256***	***0.0136***	***1.2126***	***0.9717***

Mass Grading Haul #1			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2016**						
	Fugitive Dust						0.0010	0.0002
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.00097**	**0.00015**
Offsite								
	Hauling		0.0447	0.4582	0.7062	0.0011	0.0304	0.0122
	Vendor		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Worker		0	0	0	0	0	0
	Total		**0.0447**	**0.4582**	**0.7062**	**0.00109**	**0.0304**	**0.0122**
TOTAL			***0.0447***	***0.4582***	***0.7062***	***0.0011***	***0.0314***	***0.0124***
Mass Grading + Haul #1			***1.4173***	***12.0866***	***10.2318***	***0.0147***	***1.2440***	***0.9841***

Mass Grading Haul #2			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2016**						
	Fugitive Dust						0.0203	0.0031
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.0203**	**0.00307**
Offsite								
	Hauling		0.9376	9.6215	14.8300	0.0229	0.6387	0.2561
	Vendor		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Worker		0	0	0	0	0	0
	Total		**0.9376**	**9.6215**	**14.83**	**0.0229**	**0.6387**	**0.2561**
TOTAL			***0.9376***	***9.6215***	***14.8300***	***0.0229***	***0.6590***	***0.2592***
Mass Grading + Haul #2			***2.3102***	***21.2499***	***24.3556***	***0.0365***	***1.8716***	***1.2309***

Trenching			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2016**						
	Off-Road		0.3406	3.2551	2.4126	0.00311	0.2506	0.2306
	Total		**0.3406**	**3.2551**	**2.4126**	**0.00311**	**0.2506**	**0.2306**
Offsite								
	Hauling		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
	Worker		0.0232	0.0311	0.3257	0.00069	0.0564	0.0153
	Total		**0.0232**	**0.0311**	**0.3257**	**0.00069**	**0.0564**	**0.0153**
TOTAL			***0.3638***	***3.2862***	***2.7383***	***0.0038***	***0.3070***	***0.2459***

Fine Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2016**						
Fugitive Dust						0.3218	0.1769
Off-Road		1.3122	11.2385	8.7048	0.012	0.8039	0.7674
Total		**1.3122**	**11.2385**	**8.7048**	**0.012**	**1.1257**	**0.9442**
Offsite							
Hauling		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor		0.0372	0.3588	0.4951	0.0009	0.0305	0.0122
Worker		0.0232	0.0311	0.3257	0.00069	0.0564	0.0153
Total		**0.0604**	**0.3899**	**0.8208**	**0.00156**	**0.0869**	**0.0275**
TOTAL		***1.3726***	***11.6284***	***9.5256***	***0.0136***	***1.2126***	***0.9717***

Building Construction							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2016**						
Off-Road		2.0939	13.5289	9.4818	0.0147	0.8884	0.8631
Total		**2.0939**	**13.5289**	**9.4818**	**0.0147**	**0.8884**	**0.8631**
Offsite							
Hauling		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor		0.0465	0.4485	0.6189	0.0011	0.0381	0.0152
Worker		0.1622	0.2176	2.2798	0.0048	0.3949	0.1072
Total		**0.2086**	**0.6661**	**2.8987**	**0.00589**	**0.433**	**0.1224**
TOTAL		***2.3025***	***14.1950***	***12.3805***	***0.0206***	***1.3214***	***0.9855***
Onsite	**2017**						
Off-Road		1.876	12.543	9.2338	0.0147	0.795	0.7723
Total		**1.876**	**12.543**	**9.2338**	**0.0147**	**0.795**	**0.7723**
Offsite							
Hauling		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor		0.0423	0.4087	0.5870	0.0011	0.0374	0.0145
Worker		0.1454	0.1968	2.0572	0.0048	0.3948	0.107
Total		**0.1877**	**0.6054**	**2.6442**	**0.00589**	**0.4321**	**0.1216**
TOTAL		***2.0637***	***13.1484***	***11.8780***	***0.0206***	***1.2271***	***0.8939***

Architectural Coating							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Architectural Coating		0.6132				0.0000	0.0000
Off-Road		0	0	0	0	0	0
Total		**0.6132**	**0**	**0**	**0**	**0**	**0**
Offsite							
Hauling		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor		0.0169	0.1635	0.2348	0.0004	0.0149	0.0058
Worker		0.0416	0.0562	0.5878	0.00137	0.1128	0.0306
Total		**0.0585**	**0.2197**	**0.8226**	**0.00181**	**0.1277**	**0.0364**
TOTAL		***0.6717***	***0.2197***	***0.8226***	***0.0018***	***0.1277***	***0.0364***

Finishing/Landscaping							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Off-Road		0.9919	10.7691	3.7276	0.00687	0.5272	0.485
Total		**0.9919**	**10.7691**	**3.7276**	**0.00687**	**0.5272**	**0.485**
Offsite							
Hauling		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
Worker		0.0208	0.0281	0.2939	0.00069	0.0564	0.0153
Total		**0.0208**	**0.0281**	**0.2939**	**0.00069**	**0.0564**	**0.0153**
TOTAL		***1.0127***	***10.7972***	***4.0215***	***0.0076***	***0.5836***	***0.5003***

MAX DAILY		**2.31**	**21.25**	**24.36**	**0.04**	**1.87**	**1.23**
Regional Thresholds		**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?		No	No	No	No	No	No

Maximum Emissions

Regional Operational Emissions Worksheet

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16900	0.00001	0.00087	0.00000	0.00000	0.00000
Energy	0.00220	0.02000	0.01680	0.00012	0.00152	0.00152
Mobile	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.1712	0.0200	0.0176	0.0001	0.0015	0.0015

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16900	0.00001	0.00087	0.00000	0.00000	0.00000
Energy	0.00220	0.02000	0.01680	0.00012	0.00152	0.00152
Mobile	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.1712	0.0200	0.0176	0.0001	0.0015	0.0015

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16900	0.00001	0.00087	0.00000	0.00000	0.00000
Energy	0.00220	0.02000	0.01680	0.00012	0.00152	0.00152
Mobile	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.1712	0.0200	0.0176	0.0001	0.0015	0.0015

Localized Construction Emissions Worksheet

Mass Grading					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Fugitive Dust				0.32	0.18
Off-Road		11	9	0.80	0.77
Total		**11**	**9**	**1.13**	**0.94**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Mass Grading Haul #1					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Fugitive Dust				0.00	0.00
Off-Road		0	0	0.00	0.00
Total		**0**	**0**	**0.00**	**0.00**
Mass Grading + Haul #1		***11***	***9***	***1.13***	***0.94***
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Mass Grading Haul #2					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Fugitive Dust				0.02	0.00
Off-Road		0	0	0.00	0.00
Total		**0**	**0**	**0.02**	**0.00**
Offsite					
Hauling		10	15	0.60	0.25
Vendor		0	0	0.00	0.00
Worker		0	0	0.00	0.00
Total		**10**	**15**	**0.60**	**0.25**
TOTAL		***10***	***15***	***0.62***	***0.25***
Mass Grading + Haul #2		***11***	***9***	***1.15***	***0.95***
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Trenching					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Off-Road		3	2	0.25	0.23
Total		**3**	**2**	**0.25**	**0.23**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Fine Grading					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Fugitive Dust				0.32	0.18
Off-Road		11	9	0.80	0.77
Total		**11**	**9**	**1.13**	**0.94**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Building Construction					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
Off-Road		14	9	0.89	0.86
Total		**14**	**9**	**0.89**	**0.86**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***
Onsite	**2017**				
Off-Road		13	9	0.80	0.77
Total		**13**	**9**	**0.80**	**0.77**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Architectural Coating					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
Architectural Coating				0.00	0.00
Off-Road		0	0	0.00	0.00
Total		**0**	**0**	**0.00**	**0.00**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

Finishing/Landscaping					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
Off-Road		11	4	0.53	0.49
Total		**11**	**4**	**0.53**	**0.49**
LSTs		***91***	***664***	***5.00***	***3.00***
Exceeds LSTs?		***No***	***No***	***No***	***No***

GHG Emissions Worksheet

	MTons Total
Total Construction	247

The construction emissions are conservative because modeling does not account for sharing of construction equipment between overlapping construction phases that would use the same pieces of equipment.

Source	Buildout MTons/Year	
Area	0.0002	0%
Energy	18.7423	69%
Mobile	0.0000	0%
Waste	0.0000	0%
Water	0.0000	0%
Amortized Construction Emissions*	8	31%
Total All Sectors	27	100%

*Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-%28ghg%29-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf?sfvrsn=2 .

CalEEMod Project Characteristics Inputs (Construction)

Project Location:	Los Angeles County - South Coast
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2017
Utility Company:	Southern California Edison
Air Basin:	South Coast Air Basin
Air District:	SCAQMD

New Pavement, Hardscape, and Landscaping

Hardscape	2,500	SQFT
Landscaping	800	SQFT

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Gymnasium	Educational	Middle School	8.26	1000sqft	0.27	8,260
Hardscape & Landscaping	Parking	Other Non-Asphalt Surfaces	0.08	acres	0.08	0
					0.35	acre

Soil Hauling

Construction Activity	Import Volume (CY)	Export Volume (CY)	Total Haul Trips	Total Haul Duration
Haul 1 (Site Preparation)	0	300	60	15
Haul 2 (Rough Grading)	3,300	3,000	1,260	15

Haul Distance:	7	miles
Import/Export Facility Location:	Chandler's Sand & Gravel, Rolling Hills Estate, CA (Assumed based on District response)	
Haul Truck Capacity	10	CY

Architectural Coating

Percentage of Buildings' Exterior Painted:	20%	percent
Percentage of Buildings' interior Painted:	90%	percent
Interior Paint VOC content:	35	grams per liter
Exterior Paing VOC content:	40	grams per liter

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)	Total Paintable Exterior Surface Area (BSF)
Gymnasium	8,260	2.0	16,520	11,151	826

*Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building.

Modeling Adjustments for Operational Architectural Coating

Adjusted Exterior Paintable Surface Area:	826	
Default Exterior Paintable Surface Area:	4,130	
Reduction in Percent:	20%	
Anticipated Exterior Paint VOC content:	40	
Default Exterior Paint VOC Content:	250	
Reduction in Percent:	16%	
Proportion of Paint VOC:	3.2%	
Adjusted Exterior Paint VOC Content:*	**8**	**g/L**

*Value input for operation exterior paint of the CalEEMod mitigation tab for area sources. Adjustment made due to modeling software limitation.

Energy

Buildings constructed after July 1, 2014 are required to meet the 2013 Building and Energy Efficiency Standards. The 2013 Standards are 30% more energy efficient for non-residential buildings than the 2008 Building and Energy Efficiency Standards.

Water/Wastewater

Assumes the proposed gymnasium would not result in an overall increase in water and wastewater generation as no new events or an increase in student capacity would occur.

Solid Waste

Assumes the proposed gymnasium would not result in an overall increase in solid waste generation as no new events or an increase in student capacity would occur.

CalEEMod Construction Off-Road Equipment Inputs*

Equipment Type	CalEEMod Equipment Type	Unit Amount	Hours/Day	HP	LF**	Worker Trips	Vendor Trips
Mass Grading						5	4***
Concrete/Industrial Saws	Concrete/Industrial Saws	1	8	81	0.73		
Rubber Tired Dozers	Rubber Tired Dozers	1	1	255	0.4		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	2	6	97	0.37		
Fine Grading						5	4***
Concrete/Industrial Saws	Concrete/Industrial Saws	1	8	81	0.73		
Rubber Tired Dozers	Rubber Tired Dozers	1	1	255	0.4		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	2	6	97	0.37		
Utility Trenching						5	0
CAT 416F (Tractors/Loaders/Backhoes)	Tractors/Laoders/Backhoes	1	8	97	0.37		
Building Construction						35	5
Cranes	Cranes	1	4	226	0.29		
Forklifts	Forklifts	1	6	89	0.2		
Generator Sets	Generator Sets	1	8	84	0.74		
Welders	Welders	1	8	46	0.74		
Architectural Coating						10	2
Air Compressors	Air Compressors	0	6	78			
Finishing/Landscaping						5	0
Skip Loader	Rubber Tired Loaders	1	8	199	0.4		

*Based on information provided and verified by the District unless otherwise noted.
**CalEEMod default.
***Assumes 4 water truck trips per day.

Construction Phasing*

*Based on information provided and verified by the District.

Adjusted

Construction Phase	Start Date	End Date	Workdays
Mass Grading (Site Preparation+Rough Grading)	2/1/2016	4/10/2016	50
Haul 1	2/1/2016	2/21/2016	15
Haul 2	3/20/2016	4/8/2016	15
Utility Trenching	4/11/2016	5/1/2016	15
Fine Grading	5/2/2016	5/10/2016	7
Building Construction	5/11/2016	3/5/2017	213
Architectural Coating	3/6/2017	4/18/2017	32
Finishing/Landscaping	4/19/2017	5/17/2017	21

Casimir MS Gym

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	8.26	1000sqft	0.27	8,260.00	0
Other Non-Asphalt Surfaces	0.08	Acre	0.08	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - No architectural coating for the project surfaces.

Construction Phase - Based on information provided by the District.

Off-road Equipment - No equipment as verified by the District.

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - As verified by the District.

Trips and VMT - Based on information provided and verified by the District. Vendors assigned to the Mass and Fine Grading phases represent assumed water truck trips.

Grading -

Architectural Coating - Based on information provided by the District.

Vehicle Trips - No new trips assumed.

Area Coating - Based on information provided by the District. Exterior surface area is anticipated to be 826 SF and is adjusted through the emission factor of the Area Mitigation tab due to software limitation.

Water And Wastewater - Assumes no new water generation.

Solid Waste - Assumes no new solid waste generation.

Construction Off-road Equipment Mitigation - Based SCAQMD Rules 403 and 1186.

Area Mitigation - As part of overall project development as indicated by the District. Exterior paint derived from anticipated total exterior surface area to be painted and from the anticipated exterior paint with 40 VOC g/L to be used.

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	4,130.00	826.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	12,390.00	11,151.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	40.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	35.00
tblAreaCoating	Area_Nonresidential_Interior	12390	11151
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	8
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	35
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	5.00	32.00
tblConstructionPhase	NumDays	100.00	213.00
tblConstructionPhase	NumDays	2.00	50.00

tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	7.00
tblConstructionPhase	PhaseEndDate	3/3/2017	3/5/2017
tblConstructionPhase	PhaseEndDate	4/29/2016	2/19/2016
tblConstructionPhase	PhaseEndDate	3/11/2016	4/8/2016
tblConstructionPhase	PhaseEndDate	4/29/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	3/20/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	4/11/2016
tblGrading	MaterialExported	0.00	300.00
tblGrading	MaterialExported	0.00	3,000.00
tblGrading	MaterialImported	0.00	3,300.00
tblLandUse	LandUseSquareFeet	3,484.80	0.00
tblLandUse	LotAcreage	0.19	0.27
tblOffRoadEquipment	HorsePower	255.00	199.00
tblOffRoadEquipment	LoadFactor	0.45	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017

tblSolidWaste	SolidWasteGenerationRate	10.74	0.00
tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripNumber	38.00	60.00
tblTripsAndVMT	HaulingTripNumber	788.00	1,260.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	35.00
tblTripsAndVMT	WorkerTripNumber	1.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblVehicleTrips	WD_TR	13.78	0.00
tblWater	IndoorWaterUseRate	170,329.50	0.00
tblWater	OutdoorWaterUseRate	437,990.13	0.00

2.0 Emissions Summary

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					
2016	0.2414	1.6269	1.4456	2.3400e-003	0.0633	0.1015	0.1647	0.0230	0.0980	0.1209	0.0000	198.3770	198.3770	0.0291	0.0000	198.9876
2017	0.0675	0.4131	0.3232	5.7000e-004	0.0118	0.0237	0.0356	3.1600e-003	0.0227	0.0259	0.0000	47.7946	47.7946	7.7100e-003	0.0000	47.9565
Total	**0.3089**	**2.0400**	**1.7689**	**2.9100e-003**	**0.0751**	**0.1252**	**0.2003**	**0.0261**	**0.1207**	**0.1468**	**0.0000**	**246.1716**	**246.1716**	**0.0368**	**0.0000**	**246.9441**

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					
2016	0.2414	1.6269	1.4456	2.3400e-003	0.0508	0.1015	0.1522	0.0162	0.0980	0.1142	0.0000	198.3768	198.3768	0.0291	0.0000	198.9874
2017	0.0675	0.4131	0.3232	5.7000e-004	0.0118	0.0237	0.0356	3.1600e-003	0.0227	0.0259	0.0000	47.7945	47.7945	7.7100e-003	0.0000	47.9565
Total	**0.3089**	**2.0400**	**1.7689**	**2.9100e-003**	**0.0626**	**0.1252**	**0.1878**	**0.0193**	**0.1207**	**0.1400**	**0.0000**	**246.1714**	**246.1714**	**0.0368**	**0.0000**	**246.9439**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**16.63**	**0.00**	**6.24**	**25.97**	**0.00**	**4.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0387	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	21.8036	21.8036	8.6000e-004	2.6000e-004	21.9008
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0393**	**5.0200e-003**	**4.3300e-003**	**3.0000e-005**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**21.8038**	**21.8038**	**8.6000e-004**	**2.6000e-004**	**21.9010**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0308	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	4.0000e-004	3.6400e-003	3.0600e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	18.6607	18.6607	7.5000e-004	2.1000e-004	18.7423
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0312**	**3.6400e-003**	**3.1700e-003**	**2.0000e-005**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**18.6609**	**18.6609**	**7.5000e-004**	**2.1000e-004**	**18.7425**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.43**	**27.49**	**26.79**	**33.33**	**0.00**	**26.32**	**26.32**	**0.00**	**26.32**	**26.32**	**0.00**	**14.41**	**14.41**	**12.79**	**19.23**	**14.42**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mass Grading	Grading	2/1/2016	4/8/2016	5	50	
2	Mass Grading Haul 1	Grading	2/1/2016	2/19/2016	5	15	
3	Mass Grading Haul 2	Grading	3/20/2016	4/8/2016	5	15	
4	Trenching	Trenching	4/11/2016	5/1/2016	5	15	
5	Fine Grading	Grading	5/2/2016	5/10/2016	5	7	
6	Building Construction	Building Construction	5/11/2016	3/5/2017	5	213	
7	Architectural Coating	Architectural Coating	3/6/2017	4/18/2017	5	32	
8	Finishing/Landscaping	Trenching	4/19/2017	5/17/2017	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 11,151; Non-Residential Outdoor: 826 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mass Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Mass Grading	Rubber Tired Dozers	1	1.00	255	0.40
Mass Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Mass Grading Haul 1	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 1	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Mass Grading Haul 2	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 2	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Fine Grading	Rubber Tired Dozers	1	1.00	255	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.74
Architectural Coating	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Rubber Tired Dozers	1	8.00	199	0.40

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
Mass Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 1	0	0.00	0.00	60.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 2	0	0.00	0.00	1,260.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	35.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mass Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0188	0.0000	0.0188	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0328	0.2810	0.2176	3.0000e-004		0.0201	0.0201		0.0192	0.0192	0.0000	27.0706	27.0706	5.4100e-003	0.0000	27.1843
Total	**0.0328**	**0.2810**	**0.2176**	**3.0000e-004**	**0.0188**	**0.0201**	**0.0389**	**0.0103**	**0.0192**	**0.0295**	**0.0000**	**27.0706**	**27.0706**	**5.4100e-003**	**0.0000**	**27.1843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	9.1500e-003	0.0119	2.0000e-005	6.1000e-004	1.4000e-004	7.5000e-004	1.7000e-004	1.3000e-004	3.0000e-004	0.0000	1.9908	1.9908	1.0000e-005	0.0000	1.9912
Worker	5.5000e-004	8.0000e-004	8.3100e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.8000e-004	0.0000	1.3366	1.3366	8.0000e-005	0.0000	1.3382
Total	**1.4500e-003**	**9.9500e-003**	**0.0202**	**4.0000e-005**	**1.9800e-003**	**1.5000e-004**	**2.1300e-003**	**5.3000e-004**	**1.4000e-004**	**6.8000e-004**	**0.0000**	**3.3274**	**3.3274**	**9.0000e-005**	**0.0000**	**3.3293**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0500e-003	0.0000	8.0500e-003	4.4200e-003	0.0000	4.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0328	0.2810	0.2176	3.0000e-004		0.0201	0.0201		0.0192	0.0192	0.0000	27.0706	27.0706	5.4100e-003	0.0000	27.1843
Total	**0.0328**	**0.2810**	**0.2176**	**3.0000e-004**	**8.0500e-003**	**0.0201**	**0.0282**	**4.4200e-003**	**0.0192**	**0.0236**	**0.0000**	**27.0706**	**27.0706**	**5.4100e-003**	**0.0000**	**27.1843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	9.1500e-003	0.0119	2.0000e-005	6.1000e-004	1.4000e-004	7.5000e-004	1.7000e-004	1.3000e-004	3.0000e-004	0.0000	1.9908	1.9908	1.0000e-005	0.0000	1.9912
Worker	5.5000e-004	8.0000e-004	8.3100e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.8000e-004	0.0000	1.3366	1.3366	8.0000e-005	0.0000	1.3382
Total	**1.4500e-003**	**9.9500e-003**	**0.0202**	**4.0000e-005**	**1.9800e-003**	**1.5000e-004**	**2.1300e-003**	**5.3000e-004**	**1.4000e-004**	**6.8000e-004**	**0.0000**	**3.3274**	**3.3274**	**9.0000e-005**	**0.0000**	**3.3293**

3.3 Mass Grading Haul 1 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.2000e-004	3.5000e-003	5.0900e-003	1.0000e-005	1.8000e-004	4.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7471	0.7471	1.0000e-005	0.0000	0.7473
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	**3.2000e-004**	**3.5000e-003**	**5.0900e-003**	**1.0000e-005**	**1.8000e-004**	**4.0000e-005**	**2.2000e-004**	**5.0000e-005**	**4.0000e-005**	**9.0000e-005**	**0.0000**	**0.7471**	**0.7471**	**1.0000e-005**	**0.0000**	**0.7473**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.2000e-004	3.5000e-003	5.0900e-003	1.0000e-005	1.8000e-004	4.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7471	0.7471	1.0000e-005	0.0000	0.7473
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	**3.2000e-004**	**3.5000e-003**	**5.0900e-003**	**1.0000e-005**	**1.8000e-004**	**4.0000e-005**	**2.2000e-004**	**5.0000e-005**	**4.0000e-005**	**9.0000e-005**	**0.0000**	**0.7471**	**0.7471**	**1.0000e-005**	**0.0000**	**0.7473**

3.4 Mass Grading Haul 2 - 2016

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					3.6000e-004	0.0000	3.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8200e-003	0.0735	0.1069	1.7000e-004	3.7800e-003	9.4000e-004	4.7200e-003	1.0400e-003	8.6000e-004	1.9000e-003	0.0000	15.6896	15.6896	1.3000e-004	0.0000	15.6923
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	**6.8200e-003**	**0.0735**	**0.1069**	**1.7000e-004**	**3.7800e-003**	**9.4000e-004**	**4.7200e-003**	**1.0400e-003**	**8.6000e-004**	**1.9000e-003**	**0.0000**	**15.6896**	**15.6896**	**1.3000e-004**	**0.0000**	**15.6923**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8200e-003	0.0735	0.1069	1.7000e-004	3.7800e-003	9.4000e-004	4.7200e-003	1.0400e-003	8.6000e-004	1.9000e-003	0.0000	15.6896	15.6896	1.3000e-004	0.0000	15.6923
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	**6.8200e-003**	**0.0735**	**0.1069**	**1.7000e-004**	**3.7800e-003**	**9.4000e-004**	**4.7200e-003**	**1.0400e-003**	**8.6000e-004**	**1.9000e-003**	**0.0000**	**15.6896**	**15.6896**	**1.3000e-004**	**0.0000**	**15.6923**

3.5 Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5500e-003	0.0244	0.0181	2.0000e-005		1.8800e-003	1.8800e-003		1.7300e-003	1.7300e-003	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162
Total	**2.5500e-003**	**0.0244**	**0.0181**	**2.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.2023**	**2.2023**	**6.6000e-004**	**0.0000**	**2.2162**

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	1.6000e-004	2.4000e-004	2.4900e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.4010	0.4010	2.0000e-005	0.0000	0.4015
Total	**1.6000e-004**	**2.4000e-004**	**2.4900e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4010**	**0.4010**	**2.0000e-005**	**0.0000**	**0.4015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5500e-003	0.0244	0.0181	2.0000e-005		1.8800e-003	1.8800e-003		1.7300e-003	1.7300e-003	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162
Total	**2.5500e-003**	**0.0244**	**0.0181**	**2.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.2023**	**2.2023**	**6.6000e-004**	**0.0000**	**2.2162**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	2.4000e-004	2.4900e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.4010	0.4010	2.0000e-005	0.0000	0.4015
Total	**1.6000e-004**	**2.4000e-004**	**2.4900e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4010**	**0.4010**	**2.0000e-005**	**0.0000**	**0.4015**

3.6 Fine Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6300e-003	0.0000	2.6300e-003	1.4500e-003	0.0000	1.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5900e-003	0.0393	0.0305	4.0000e-005		2.8100e-003	2.8100e-003		2.6900e-003	2.6900e-003	0.0000	3.7899	3.7899	7.6000e-004	0.0000	3.8058
Total	**4.5900e-003**	**0.0393**	**0.0305**	**4.0000e-005**	**2.6300e-003**	**2.8100e-003**	**5.4400e-003**	**1.4500e-003**	**2.6900e-003**	**4.1400e-003**	**0.0000**	**3.7899**	**3.7899**	**7.6000e-004**	**0.0000**	**3.8058**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	1.2800e-003	1.6600e-003	0.0000	9.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2787	0.2787	0.0000	0.0000	0.2788
Worker	8.0000e-005	1.1000e-004	1.1600e-003	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1871	0.1871	1.0000e-005	0.0000	0.1874
Total	**2.1000e-004**	**1.3900e-003**	**2.8200e-003**	**0.0000**	**2.8000e-004**	**2.0000e-005**	**3.0000e-004**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**0.0000**	**0.4658**	**0.4658**	**1.0000e-005**	**0.0000**	**0.4661**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1300e-003	0.0000	1.1300e-003	6.2000e-004	0.0000	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5900e-003	0.0393	0.0305	4.0000e-005		2.8100e-003	2.8100e-003		2.6900e-003	2.6900e-003	0.0000	3.7899	3.7899	7.6000e-004	0.0000	3.8058
Total	**4.5900e-003**	**0.0393**	**0.0305**	**4.0000e-005**	**1.1300e-003**	**2.8100e-003**	**3.9400e-003**	**6.2000e-004**	**2.6900e-003**	**3.3100e-003**	**0.0000**	**3.7899**	**3.7899**	**7.6000e-004**	**0.0000**	**3.8058**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	1.2800e-003	1.6600e-003	0.0000	9.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2787	0.2787	0.0000	0.0000	0.2788
Worker	8.0000e-005	1.1000e-004	1.1600e-003	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1871	0.1871	1.0000e-005	0.0000	0.1874
Total	**2.1000e-004**	**1.3900e-003**	**2.8200e-003**	**0.0000**	**2.8000e-004**	**2.0000e-005**	**3.0000e-004**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**0.0000**	**0.4658**	**0.4658**	**1.0000e-005**	**0.0000**	**0.4661**

3.7 Building Construction - 2016

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	0.1759	1.1364	0.7965	1.2400e-003		0.0746	0.0746		0.0725	0.0725	0.0000	104.8849	104.8849	0.0201	0.0000	105.3077
Total	**0.1759**	**1.1364**	**0.7965**	**1.2400e-003**		**0.0746**	**0.0746**		**0.0725**	**0.0725**	**0.0000**	**104.8849**	**104.8849**	**0.0201**	**0.0000**	**105.3077**

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	3.7800e-003	0.0384	0.0499	9.0000e-005	2.5800e-003	5.8000e-004	3.1500e-003	7.3000e-004	5.3000e-004	1.2700e-003	0.0000	8.3615	8.3615	6.0000e-005	0.0000	8.3628
Worker	0.0128	0.0188	0.1956	4.1000e-004	0.0322	3.1000e-004	0.0325	8.5600e-003	2.9000e-004	8.8400e-003	0.0000	31.4368	31.4368	1.7800e-003	0.0000	31.4743
Total	**0.0166**	**0.0572**	**0.2455**	**5.0000e-004**	**0.0348**	**8.9000e-004**	**0.0357**	**9.2900e-003**	**8.2000e-004**	**0.0101**	**0.0000**	**39.7983**	**39.7983**	**1.8400e-003**	**0.0000**	**39.8371**

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	0.1759	1.1364	0.7965	1.2400e-003		0.0746	0.0746		0.0725	0.0725	0.0000	104.8848	104.8848	0.0201	0.0000	105.3076
Total	**0.1759**	**1.1364**	**0.7965**	**1.2400e-003**		**0.0746**	**0.0746**		**0.0725**	**0.0725**	**0.0000**	**104.8848**	**104.8848**	**0.0201**	**0.0000**	**105.3076**

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	3.7800e-003	0.0384	0.0499	9.0000e-005	2.5800e-003	5.8000e-004	3.1500e-003	7.3000e-004	5.3000e-004	1.2700e-003	0.0000	8.3615	8.3615	6.0000e-005	0.0000	8.3628
Worker	0.0128	0.0188	0.1956	4.1000e-004	0.0322	3.1000e-004	0.0325	8.5600e-003	2.9000e-004	8.8400e-003	0.0000	31.4368	31.4368	1.7800e-003	0.0000	31.4743
Total	**0.0166**	**0.0572**	**0.2455**	**5.0000e-004**	**0.0348**	**8.9000e-004**	**0.0357**	**9.2900e-003**	**8.2000e-004**	**0.0101**	**0.0000**	**39.7983**	**39.7983**	**1.8400e-003**	**0.0000**	**39.8371**

3.7 Building Construction - 2017

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	0.0422	0.2822	0.2078	3.3000e-004		0.0179	0.0179		0.0174	0.0174	0.0000	27.9646	27.9646	5.0700e-003	0.0000	28.0712
Total	**0.0422**	**0.2822**	**0.2078**	**3.3000e-004**		**0.0179**	**0.0179**		**0.0174**	**0.0174**	**0.0000**	**27.9646**	**27.9646**	**5.0700e-003**	**0.0000**	**28.0712**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2000e-004	9.3800e-003	0.0127	2.0000e-005	6.9000e-004	1.4000e-004	8.3000e-004	2.0000e-004	1.3000e-004	3.2000e-004	0.0000	2.2039	2.2039	2.0000e-005	0.0000	2.2043
Worker	3.0800e-003	4.5500e-003	0.0473	1.1000e-004	8.6300e-003	8.0000e-005	8.7100e-003	2.2900e-003	7.0000e-005	2.3700e-003	0.0000	8.1050	8.1050	4.4000e-004	0.0000	8.1143
Total	**4.0000e-003**	**0.0139**	**0.0600**	**1.3000e-004**	**9.3200e-003**	**2.2000e-004**	**9.5400e-003**	**2.4900e-003**	**2.0000e-004**	**2.6900e-003**	**0.0000**	**10.3089**	**10.3089**	**4.6000e-004**	**0.0000**	**10.3185**

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	0.0422	0.2822	0.2078	3.3000e-004		0.0179	0.0179		0.0174	0.0174	0.0000	27.9646	27.9646	5.0700e-003	0.0000	28.0711
Total	**0.0422**	**0.2822**	**0.2078**	**3.3000e-004**		**0.0179**	**0.0179**		**0.0174**	**0.0174**	**0.0000**	**27.9646**	**27.9646**	**5.0700e-003**	**0.0000**	**28.0711**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2000e-004	9.3800e-003	0.0127	2.0000e-005	6.9000e-004	1.4000e-004	8.3000e-004	2.0000e-004	1.3000e-004	3.2000e-004	0.0000	2.2039	2.2039	2.0000e-005	0.0000	2.2043
Worker	3.0800e-003	4.5500e-003	0.0473	1.1000e-004	8.6300e-003	8.0000e-005	8.7100e-003	2.2900e-003	7.0000e-005	2.3700e-003	0.0000	8.1050	8.1050	4.4000e-004	0.0000	8.1143
Total	**4.0000e-003**	**0.0139**	**0.0600**	**1.3000e-004**	**9.3200e-003**	**2.2000e-004**	**9.5400e-003**	**2.4900e-003**	**2.0000e-004**	**2.6900e-003**	**0.0000**	**10.3089**	**10.3089**	**4.6000e-004**	**0.0000**	**10.3185**

3.8 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**9.8100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	2.6700e-003	3.6000e-003	1.0000e-005	2.0000e-004	4.0000e-005	2.4000e-004	6.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.6269	0.6269	0.0000	0.0000	0.6270
Worker	6.3000e-004	9.2000e-004	9.6100e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6467	1.6467	9.0000e-005	0.0000	1.6486
Total	**8.9000e-004**	**3.5900e-003**	**0.0132**	**3.0000e-005**	**1.9500e-003**	**6.0000e-005**	**2.0100e-003**	**5.3000e-004**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.2736**	**2.2736**	**9.0000e-005**	**0.0000**	**2.2756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**9.8100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	2.6700e-003	3.6000e-003	1.0000e-005	2.0000e-004	4.0000e-005	2.4000e-004	6.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.6269	0.6269	0.0000	0.0000	0.6270
Worker	6.3000e-004	9.2000e-004	9.6100e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6467	1.6467	9.0000e-005	0.0000	1.6486
Total	**8.9000e-004**	**3.5900e-003**	**0.0132**	**3.0000e-005**	**1.9500e-003**	**6.0000e-005**	**2.0100e-003**	**5.3000e-004**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.2736**	**2.2736**	**9.0000e-005**	**0.0000**	**2.2756**

3.9 Finishing/Landscaping - 2017

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	0.0104	0.1131	0.0391	7.0000e-005		5.5400e-003	5.5400e-003		5.0900e-003	5.0900e-003	0.0000	6.7071	6.7071	2.0600e-003	0.0000	6.7503
Total	**0.0104**	**0.1131**	**0.0391**	**7.0000e-005**		**5.5400e-003**	**5.5400e-003**		**5.0900e-003**	**5.0900e-003**	**0.0000**	**6.7071**	**6.7071**	**2.0600e-003**	**0.0000**	**6.7503**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.0000e-004	3.1500e-003	1.0000e-005	5.8000e-004	1.0000e-005	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5403	0.5403	3.0000e-005	0.0000	0.5410
Total	**2.1000e-004**	**3.0000e-004**	**3.1500e-003**	**1.0000e-005**	**5.8000e-004**	**1.0000e-005**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5403**	**0.5403**	**3.0000e-005**	**0.0000**	**0.5410**

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	0.0104	0.1131	0.0391	7.0000e-005		5.5400e-003	5.5400e-003		5.0900e-003	5.0900e-003	0.0000	6.7071	6.7071	2.0600e-003	0.0000	6.7502
Total	**0.0104**	**0.1131**	**0.0391**	**7.0000e-005**		**5.5400e-003**	**5.5400e-003**		**5.0900e-003**	**5.0900e-003**	**0.0000**	**6.7071**	**6.7071**	**2.0600e-003**	**0.0000**	**6.7502**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.0000e-004	3.1500e-003	1.0000e-005	5.8000e-004	1.0000e-005	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5403	0.5403	3.0000e-005	0.0000	0.5410
Total	**2.1000e-004**	**3.0000e-004**	**3.1500e-003**	**1.0000e-005**	**5.8000e-004**	**1.0000e-005**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5403**	**0.5403**	**3.0000e-005**	**0.0000**	**0.5410**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	16.60	8.40	6.90	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	14.6954	14.6954	6.8000e-004	1.4000e-004	14.7529
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	16.3334	16.3334	7.5000e-004	1.6000e-004	16.3974
NaturalGas Mitigated	4.0000e-004	3.6400e-003	3.0600e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9653	3.9653	8.0000e-005	7.0000e-005	3.9894
NaturalGas Unmitigated	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4701	5.4701	1.0000e-004	1.0000e-004	5.5034

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	102507	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4701	5.4701	1.0000e-004	1.0000e-004	5.5034
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.5000e-004**	**5.0200e-003**	**4.2200e-003**	**3.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**5.4701**	**5.4701**	**1.0000e-004**	**1.0000e-004**	**5.5034**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	74307	4.0000e-004	3.6400e-003	3.0600e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9653	3.9653	8.0000e-005	7.0000e-005	3.9894
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.0000e-004**	**3.6400e-003**	**3.0600e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**3.9653**	**3.9653**	**8.0000e-005**	**7.0000e-005**	**3.9894**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	57076.6	16.3334	7.5000e-004	1.6000e-004	16.3974
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**16.3334**	**7.5000e-004**	**1.6000e-004**	**16.3974**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	51352.4	14.6954	6.8000e-004	1.4000e-004	14.7529
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**14.6954**	**6.8000e-004**	**1.4000e-004**	**14.7529**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	0.0308	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Unmitigated	0.0387	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-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	8.8500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0299					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	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Total	**0.0387**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.0000**	**2.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0299					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	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Total	**0.0308**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.0000**	**2.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior High School	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	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			
Junior High School	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	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

10.0 Vegetation

Casimir MS Gym

Los Angeles-South Coast County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finishing/Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Haul 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Haul 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	0	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	2	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Forklifts	Diesel	No Change	0	1	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	5	No Change	0.00

Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	1.84300E-002	1.31730E-001	1.07590E-001	1.80000E-004	9.90000E-003	9.90000E-003	0.00000E+000	1.53232E+001	1.53232E+001	1.48000E-003	0.00000E+000	1.53544E+001
Cranes	3.75300E-002	4.44870E-001	1.56370E-001	3.00000E-004	2.01200E-002	1.85100E-002	0.00000E+000	2.82278E+001	2.82278E+001	8.54000E-003	0.00000E+000	2.84072E+001
Forklifts	1.78600E-002	1.53880E-001	1.00650E-001	1.20000E-004	1.28300E-002	1.18100E-002	0.00000E+000	1.14634E+001	1.14634E+001	3.47000E-003	0.00000E+000	1.15363E+001
Generator Sets	6.65200E-002	5.06560E-001	4.04370E-001	7.00000E-004	3.52100E-002	3.52100E-002	0.00000E+000	6.01946E+001	6.01946E+001	5.37000E-003	0.00000E+000	6.03074E+001
Rubber Tired Dozers	1.48300E-002	1.62490E-001	7.64900E-002	1.00000E-004	7.83000E-003	7.21000E-003	0.00000E+000	9.69148E+000	9.69148E+000	2.96000E-003	0.00000E+000	9.75354E+000
Tractors/Loaders/Backhoes	1.71100E-002	1.63570E-001	1.21230E-001	1.60000E-004	1.25900E-002	1.15900E-002	0.00000E+000	1.47552E+001	1.47552E+001	4.45000E-003	0.00000E+000	1.48486E+001
Welders	9.62000E-002	3.13330E-001	3.42840E-001	4.50000E-004	2.43500E-002	2.43500E-002	0.00000E+000	3.29637E+001	3.29637E+001	7.82000E-003	0.00000E+000	3.31279E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	1.84300E-002	1.31730E-001	1.07590E-001	1.80000E-004	9.90000E-003	9.90000E-003	0.00000E+000	1.53232E+001	1.53232E+001	1.48000E-003	0.00000E+000	1.53544E+001
Cranes	3.75300E-002	4.44870E-001	1.56370E-001	3.00000E-004	2.01200E-002	1.85100E-002	0.00000E+000	2.82277E+001	2.82277E+001	8.54000E-003	0.00000E+000	2.84071E+001
Forklifts	1.78600E-002	1.53880E-001	1.00650E-001	1.20000E-004	1.28300E-002	1.18100E-002	0.00000E+000	1.14634E+001	1.14634E+001	3.47000E-003	0.00000E+000	1.15363E+001
Generator Sets	6.65200E-002	5.06560E-001	4.04370E-001	7.00000E-004	3.52100E-002	3.52100E-002	0.00000E+000	6.01945E+001	6.01945E+001	5.37000E-003	0.00000E+000	6.03074E+001
Rubber Tired Dozers	1.48300E-002	1.62490E-001	7.64900E-002	1.00000E-004	7.83000E-003	7.21000E-003	0.00000E+000	9.69147E+000	9.69147E+000	2.96000E-003	0.00000E+000	9.75353E+000
Tractors/Loaders/Backhoes	1.71100E-002	1.63570E-001	1.21230E-001	1.60000E-004	1.25900E-002	1.15900E-002	0.00000E+000	1.47552E+001	1.47552E+001	4.45000E-003	0.00000E+000	1.48486E+001
Welders	9.62000E-002	3.13330E-001	3.42840E-001	4.50000E-004	2.43500E-002	2.43500E-002	0.00000E+000	3.29637E+001	3.29637E+001	7.82000E-003	0.00000E+000	3.31279E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.30521E-006	1.30521E-006	0.00000E+000	0.00000E+000	6.51280E-007

Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.41704E-006	1.41704E-006	0.00000E+000	0.00000E+000	1.05607E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.72338E-007	8.72338E-007	0.00000E+000	0.00000E+000	8.66830E-007
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16290E-006	1.16290E-006	0.00000E+000	0.00000E+000	1.16072E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.03183E-006	1.03183E-006	0.00000E+000	0.00000E+000	1.02527E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	6.77729E-007	6.77729E-007	0.00000E+000	0.00000E+000	1.34693E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21346E-006	1.21346E-006	0.00000E+000	0.00000E+000	1.20744E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	5.00	PM2.5 Reduction	5.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	9.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Fine Grading	Fugitive Dust	0.00	0.00	0.00	0.00	0.57	0.57
Fine Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Finishing/Landscaping	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Finishing/Landscaping	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading	Fugitive Dust	0.02	0.01	0.01	0.00	0.57	0.57

Mass Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Haul 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.50	0.00
Mass Grading Haul 1	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Haul 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.58	0.60
Mass Grading Haul 2	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	88.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.03	10.03	9.33	12.50	10.03
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	27.27	27.49	27.49	33.33	26.32	26.32	0.00	27.51	27.51	20.00	30.00	27.51
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				

No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	35.00
Yes	Use Low VOC Paint (Non-residential Exterior)	8.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Casimir MS Gym

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	8.26	1000sqft	0.27	8,260.00	0
Other Non-Asphalt Surfaces	0.08	Acre	0.08	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - No architectural coating for the project surfaces.

Construction Phase - Based on information provided by the District.

Off-road Equipment - No equipment as verified by the District.

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - As verified by the District.

Trips and VMT - Based on information provided and verified by the District. Vendors assigned to the Mass and Fine Grading phases represent assumed water truck trips.

Grading -

Architectural Coating - Based on information provided by the District.

Vehicle Trips - No new trips assumed.

Area Coating - Based on information provided by the District. Exterior surface area is anticipated to be 826 SF and is adjusted through the emission factor of the Area Mitigation tab due to software limitation.

Water And Wastewater - Assumes no new water generation.

Solid Waste - Assumes no new solid waste generation.

Construction Off-road Equipment Mitigation - Based SCAQMD Rules 403 and 1186.

Area Mitigation - As part of overall project development as indicated by the District. Exterior paint derived from anticipated total exterior surface area to be painted and from the anticipated exterior paint with 40 VOC g/L to be used.

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	4,130.00	826.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	12,390.00	11,151.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	40.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	35.00
tblAreaCoating	Area_Nonresidential_Interior	12390	11151
tblAreaMitigation	UseLowVOCPaintNonresidentialExterior Value	250	8
tblAreaMitigation	UseLowVOCPaintNonresidentialInterior Value	250	35
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	5.00	32.00
tblConstructionPhase	NumDays	100.00	213.00
tblConstructionPhase	NumDays	2.00	50.00
tblConstructionPhase	NumDays	2.00	15.00

tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	7.00
tblConstructionPhase	PhaseEndDate	3/3/2017	3/5/2017
tblConstructionPhase	PhaseEndDate	4/29/2016	2/19/2016
tblConstructionPhase	PhaseEndDate	3/11/2016	4/8/2016
tblConstructionPhase	PhaseEndDate	4/29/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	3/20/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	4/11/2016
tblGrading	MaterialExported	0.00	300.00
tblGrading	MaterialExported	0.00	3,000.00
tblGrading	MaterialImported	0.00	3,300.00
tblLandUse	LandUseSquareFeet	3,484.80	0.00
tblLandUse	LotAcreage	0.19	0.27
tblOffRoadEquipment	HorsePower	255.00	199.00
tblOffRoadEquipment	LoadFactor	0.45	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	10.74	0.00

tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripNumber	38.00	60.00
tblTripsAndVMT	HaulingTripNumber	788.00	1,260.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	35.00
tblTripsAndVMT	WorkerTripNumber	1.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblVehicleTrips	WD_TR	13.78	0.00
tblWater	IndoorWaterUseRate	170,329.50	0.00
tblWater	OutdoorWaterUseRate	437,990.13	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.2919	20.9675	21.5925	0.0367	1.3942	0.9346	2.3288	0.5835	0.8876	1.4710	0.0000	3,655.3546	3,655.3546	0.2884	0.0000	3,661.4111
2017	2.0546	13.1193	11.9109	0.0209	0.4224	0.8047	1.2271	0.1126	0.7811	0.8938	0.0000	1,892.4418	1,892.4418	0.2710	0.0000	1,898.1337
Total	**4.3465**	**34.0868**	**33.5033**	**0.0576**	**1.8166**	**1.7392**	**3.5559**	**0.6961**	**1.6687**	**2.3648**	**0.0000**	**5,547.7965**	**5,547.7965**	**0.5594**	**0.0000**	**5,559.5448**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.2919	20.9675	21.5925	0.0367	0.9361	0.9346	1.8707	0.3425	0.8876	1.2300	0.0000	3,655.3546	3,655.3546	0.2884	0.0000	3,661.4111
2017	2.0546	13.1193	11.9109	0.0209	0.4224	0.8047	1.2271	0.1126	0.7811	0.8938	0.0000	1,892.4418	1,892.4418	0.2710	0.0000	1,898.1337
Total	**4.3465**	**34.0868**	**33.5033**	**0.0576**	**1.3585**	**1.7392**	**3.0977**	**0.4551**	**1.6687**	**2.1238**	**0.0000**	**5,547.7965**	**5,547.7965**	**0.5594**	**0.0000**	**5,559.5448**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**25.22**	**0.00**	**12.88**	**34.62**	**0.00**	**10.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2121	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Energy	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2152**	**0.0275**	**0.0240**	**1.7000e-004**	**0.0000**	**2.0900e-003**	**2.0900e-003**	**0.0000**	**2.0900e-003**	**2.0900e-003**		**33.0418**	**33.0418**	**6.4000e-004**	**6.1000e-004**	**33.2430**

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	0.1690	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Energy	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1712**	**0.0200**	**0.0176**	**1.2000e-004**	**0.0000**	**1.5200e-003**	**1.5200e-003**	**0.0000**	**1.5200e-003**	**1.5200e-003**		**23.9525**	**23.9525**	**4.7000e-004**	**4.4000e-004**	**24.0984**

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.43**	**27.49**	**26.50**	**29.41**	**0.00**	**27.27**	**27.27**	**0.00**	**27.27**	**27.27**	**0.00**	**27.51**	**27.51**	**26.56**	**27.87**	**27.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mass Grading	Grading	2/1/2016	4/8/2016	5	50	
2	Mass Grading Haul 1	Grading	2/1/2016	2/19/2016	5	15	
3	Mass Grading Haul 2	Grading	3/20/2016	4/8/2016	5	15	
4	Trenching	Trenching	4/11/2016	5/1/2016	5	15	
5	Fine Grading	Grading	5/2/2016	5/10/2016	5	7	
6	Building Construction	Building Construction	5/11/2016	3/5/2017	5	213	
7	Architectural Coating	Architectural Coating	3/6/2017	4/18/2017	5	32	
8	Finishing/Landscaping	Trenching	4/19/2017	5/17/2017	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 11,151; Non-Residential Outdoor: 826 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mass Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Mass Grading	Rubber Tired Dozers	1	1.00	255	0.40
Mass Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Mass Grading Haul 1	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 1	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Mass Grading Haul 2	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 2	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Fine Grading	Rubber Tired Dozers	1	1.00	255	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.74
Architectural Coating	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Rubber Tired Dozers	1	8.00	199	0.40

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
Mass Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 1	0	0.00	0.00	60.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 2	0	0.00	0.00	1,260.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	35.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mass Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674		1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.7528**	**0.8039**	**1.5566**	**0.4138**	**0.7674**	**1.1811**		**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0337	0.3500	0.4067	8.8000e-004	0.0250	5.4700e-003	0.0304	7.1000e-003	5.0300e-003	0.0121		88.0883	88.0883	6.5000e-004		88.1018
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0560**	**0.3781**	**0.7535**	**1.6100e-003**	**0.0808**	**6.0000e-003**	**0.0868**	**0.0219**	**5.5200e-003**	**0.0274**		**149.5393**	**149.5393**	**4.0000e-003**		**149.6231**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3218	0.0000	0.3218	0.1769	0.0000	0.1769			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674	0.0000	1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.3218**	**0.8039**	**1.1257**	**0.1769**	**0.7674**	**0.9442**	**0.0000**	**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0337	0.3500	0.4067	8.8000e-004	0.0250	5.4700e-003	0.0304	7.1000e-003	5.0300e-003	0.0121		88.0883	88.0883	6.5000e-004		88.1018
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0560**	**0.3781**	**0.7535**	**1.6100e-003**	**0.0808**	**6.0000e-003**	**0.0868**	**0.0219**	**5.5200e-003**	**0.0274**		**149.5393**	**149.5393**	**4.0000e-003**		**149.6231**

3.3 Mass Grading Haul 1 - 2016

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					2.2600e-003	0.0000	2.2600e-003	3.4000e-004	0.0000	3.4000e-004			0.0000			0.0000
Off-Road	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**	**2.2600e-003**	**0.0000**	**2.2600e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0405	0.4453	0.5778	1.1000e-003	0.0244	5.9400e-003	0.0304	6.6900e-003	5.4600e-003	0.0122		110.1050	110.1050	9.1000e-004		110.1241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.0405**	**0.4453**	**0.5778**	**1.1000e-003**	**0.0244**	**5.9400e-003**	**0.0304**	**6.6900e-003**	**5.4600e-003**	**0.0122**		**110.1050**	**110.1050**	**9.1000e-004**		**110.1241**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7000e-004	0.0000	9.7000e-004	1.5000e-004	0.0000	1.5000e-004			0.0000			0.0000
Off-Road	0.0000	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**	**9.7000e-004**	**0.0000**	**9.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0405	0.4453	0.5778	1.1000e-003	0.0244	5.9400e-003	0.0304	6.6900e-003	5.4600e-003	0.0122		110.1050	110.1050	9.1000e-004		110.1241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.0405**	**0.4453**	**0.5778**	**1.1000e-003**	**0.0244**	**5.9400e-003**	**0.0304**	**6.6900e-003**	**5.4600e-003**	**0.0122**		**110.1050**	**110.1050**	**9.1000e-004**		**110.1241**

3.4 Mass Grading Haul 2 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0475	0.0000	0.0475	7.1900e-003	0.0000	7.1900e-003			0.0000			0.0000
Off-Road	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**	**0.0475**	**0.0000**	**0.0475**	**7.1900e-003**	**0.0000**	**7.1900e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.8495	9.3510	12.1342	0.0230	0.5131	0.1247	0.6378	0.1406	0.1147	0.2553		2,312.2047	2,312.2047	0.0192		2,312.6068
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.8495**	**9.3510**	**12.1342**	**0.0230**	**0.5131**	**0.1247**	**0.6378**	**0.1406**	**0.1147**	**0.2553**		**2,312.2047**	**2,312.2047**	**0.0192**		**2,312.6068**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0203	0.0000	0.0203	3.0700e-003	0.0000	3.0700e-003			0.0000			0.0000
Off-Road	0.0000	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**	**0.0203**	**0.0000**	**0.0203**	**3.0700e-003**	**0.0000**	**3.0700e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.8495	9.3510	12.1342	0.0230	0.5131	0.1247	0.6378	0.1406	0.1147	0.2553		2,312.2047	2,312.2047	0.0192		2,312.6068
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.8495**	**9.3510**	**12.1342**	**0.0230**	**0.5131**	**0.1247**	**0.6378**	**0.1406**	**0.1147**	**0.2553**		**2,312.2047**	**2,312.2047**	**0.0192**		**2,312.6068**

3.5 Trenching - 2016

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	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**		**323.6773**	**323.6773**	**0.0976**		**325.7276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0223**	**0.0280**	**0.3469**	**7.3000e-004**	**0.0559**	**5.3000e-004**	**0.0564**	**0.0148**	**4.9000e-004**	**0.0153**		**61.4511**	**61.4511**	**3.3500e-003**		**61.5213**

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	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**	**0.0000**	**323.6773**	**323.6773**	**0.0976**		**325.7276**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0223**	**0.0280**	**0.3469**	**7.3000e-004**	**0.0559**	**5.3000e-004**	**0.0564**	**0.0148**	**4.9000e-004**	**0.0153**		**61.4511**	**61.4511**	**3.3500e-003**		**61.5213**

3.6 Fine Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674		1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.7528**	**0.8039**	**1.5566**	**0.4138**	**0.7674**	**1.1811**		**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0337	0.3500	0.4067	8.8000e-004	0.0250	5.4700e-003	0.0304	7.1000e-003	5.0300e-003	0.0121		88.0883	88.0883	6.5000e-004		88.1018
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0560**	**0.3781**	**0.7535**	**1.6100e-003**	**0.0808**	**6.0000e-003**	**0.0868**	**0.0219**	**5.5200e-003**	**0.0274**		**149.5393**	**149.5393**	**4.0000e-003**		**149.6231**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3218	0.0000	0.3218	0.1769	0.0000	0.1769			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674	0.0000	1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.3218**	**0.8039**	**1.1257**	**0.1769**	**0.7674**	**0.9442**	**0.0000**	**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0337	0.3500	0.4067	8.8000e-004	0.0250	5.4700e-003	0.0304	7.1000e-003	5.0300e-003	0.0121		88.0883	88.0883	6.5000e-004		88.1018
Worker	0.0223	0.0280	0.3469	7.3000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		61.4511	61.4511	3.3500e-003		61.5213
Total	**0.0560**	**0.3781**	**0.7535**	**1.6100e-003**	**0.0808**	**6.0000e-003**	**0.0868**	**0.0219**	**5.5200e-003**	**0.0274**		**149.5393**	**149.5393**	**4.0000e-003**		**149.6231**

3.7 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0939	13.5289	9.4818	0.0147		0.8884	0.8884		0.8631	0.8631		1,376.3790	1,376.3790	0.2642		1,381.9268
Total	**2.0939**	**13.5289**	**9.4818**	**0.0147**		**0.8884**	**0.8884**		**0.8631**	**0.8631**		**1,376.3790**	**1,376.3790**	**0.2642**		**1,381.9268**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0421	0.4375	0.5083	1.1000e-003	0.0312	6.8400e-003	0.0380	8.8700e-003	6.2900e-003	0.0152		110.1103	110.1103	8.1000e-004		110.1273
Worker	0.1559	0.1962	2.4279	5.0900e-003	0.3912	3.7000e-003	0.3949	0.1038	3.4000e-003	0.1072		430.1575	430.1575	0.0234		430.6492
Total	**0.1980**	**0.6337**	**2.9363**	**6.1900e-003**	**0.4224**	**0.0105**	**0.4329**	**0.1126**	**9.6900e-003**	**0.1223**		**540.2678**	**540.2678**	**0.0242**		**540.7765**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0939	13.5289	9.4818	0.0147		0.8884	0.8884		0.8631	0.8631	0.0000	1,376.3790	1,376.3790	0.2642		1,381.9268
Total	**2.0939**	**13.5289**	**9.4818**	**0.0147**		**0.8884**	**0.8884**		**0.8631**	**0.8631**	**0.0000**	**1,376.3790**	**1,376.3790**	**0.2642**		**1,381.9268**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0421	0.4375	0.5083	1.1000e-003	0.0312	6.8400e-003	0.0380	8.8700e-003	6.2900e-003	0.0152		110.1103	110.1103	8.1000e-004		110.1273
Worker	0.1559	0.1962	2.4279	5.0900e-003	0.3912	3.7000e-003	0.3949	0.1038	3.4000e-003	0.1072		430.1575	430.1575	0.0234		430.6492
Total	**0.1980**	**0.6337**	**2.9363**	**6.1900e-003**	**0.4224**	**0.0105**	**0.4329**	**0.1126**	**9.6900e-003**	**0.1223**		**540.2678**	**540.2678**	**0.0242**		**540.7765**

3.7 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8760	12.5430	9.2338	0.0147		0.7950	0.7950		0.7723	0.7723		1,370.0302	1,370.0302	0.2486		1,375.2512
Total	**1.8760**	**12.5430**	**9.2338**	**0.0147**		**0.7950**	**0.7950**		**0.7723**	**0.7723**		**1,370.0302**	**1,370.0302**	**0.2486**		**1,375.2512**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0385	0.3989	0.4773	1.1000e-003	0.0312	6.0900e-003	0.0373	8.8800e-003	5.6000e-003	0.0145		108.3520	108.3520	7.8000e-004		108.3684
Worker	0.1401	0.1774	2.1998	5.0900e-003	0.3912	3.5400e-003	0.3948	0.1038	3.2700e-003	0.1070		414.0596	414.0596	0.0216		414.5141
Total	**0.1786**	**0.5763**	**2.6771**	**6.1900e-003**	**0.4224**	**9.6300e-003**	**0.4321**	**0.1126**	**8.8700e-003**	**0.1215**		**522.4116**	**522.4116**	**0.0224**		**522.8825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8760	12.5430	9.2338	0.0147		0.7950	0.7950		0.7723	0.7723	0.0000	1,370.0302	1,370.0302	0.2486		1,375.2512
Total	**1.8760**	**12.5430**	**9.2338**	**0.0147**		**0.7950**	**0.7950**		**0.7723**	**0.7723**	**0.0000**	**1,370.0302**	**1,370.0302**	**0.2486**		**1,375.2512**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0385	0.3989	0.4773	1.1000e-003	0.0312	6.0900e-003	0.0373	8.8800e-003	5.6000e-003	0.0145		108.3520	108.3520	7.8000e-004		108.3684
Worker	0.1401	0.1774	2.1998	5.0900e-003	0.3912	3.5400e-003	0.3948	0.1038	3.2700e-003	0.1070		414.0596	414.0596	0.0216		414.5141
Total	**0.1786**	**0.5763**	**2.6771**	**6.1900e-003**	**0.4224**	**9.6300e-003**	**0.4321**	**0.1126**	**8.8700e-003**	**0.1215**		**522.4116**	**522.4116**	**0.0224**		**522.8825**

3.8 Architectural Coating - 2017

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	0.6132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.6132**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0400	0.0507	0.6285	1.4500e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		118.3028	118.3028	6.1800e-003		118.4326
Total	**0.0554**	**0.2103**	**0.8194**	**1.8900e-003**	**0.1243**	**3.4500e-003**	**0.1277**	**0.0332**	**3.1700e-003**	**0.0364**		**161.6435**	**161.6435**	**6.4900e-003**		**161.7800**

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	0.6132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	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	**0.6132**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0400	0.0507	0.6285	1.4500e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		118.3028	118.3028	6.1800e-003		118.4326
Total	**0.0554**	**0.2103**	**0.8194**	**1.8900e-003**	**0.1243**	**3.4500e-003**	**0.1277**	**0.0332**	**3.1700e-003**	**0.0364**		**161.6435**	**161.6435**	**6.4900e-003**		**161.7800**

3.9 Finishing/Landscaping - 2017

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	0.9919	10.7691	3.7276	6.8700e-003		0.5272	0.5272		0.4850	0.4850		704.1244	704.1244	0.2157		708.6550
Total	**0.9919**	**10.7691**	**3.7276**	**6.8700e-003**		**0.5272**	**0.5272**		**0.4850**	**0.4850**		**704.1244**	**704.1244**	**0.2157**		**708.6550**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0200	0.0254	0.3143	7.3000e-004	0.0559	5.1000e-004	0.0564	0.0148	4.7000e-004	0.0153		59.1514	59.1514	3.0900e-003		59.2163
Total	**0.0200**	**0.0254**	**0.3143**	**7.3000e-004**	**0.0559**	**5.1000e-004**	**0.0564**	**0.0148**	**4.7000e-004**	**0.0153**		**59.1514**	**59.1514**	**3.0900e-003**		**59.2163**

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	0.9919	10.7691	3.7276	6.8700e-003		0.5272	0.5272		0.4850	0.4850	0.0000	704.1244	704.1244	0.2157		708.6550
Total	**0.9919**	**10.7691**	**3.7276**	**6.8700e-003**		**0.5272**	**0.5272**		**0.4850**	**0.4850**	**0.0000**	**704.1244**	**704.1244**	**0.2157**		**708.6550**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0200	0.0254	0.3143	7.3000e-004	0.0559	5.1000e-004	0.0564	0.0148	4.7000e-004	0.0153		59.1514	59.1514	3.0900e-003		59.2163
Total	**0.0200**	**0.0254**	**0.3143**	**7.3000e-004**	**0.0559**	**5.1000e-004**	**0.0564**	**0.0148**	**4.7000e-004**	**0.0153**		**59.1514**	**59.1514**	**3.0900e-003**		**59.2163**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	16.60	8.40	6.90	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
NaturalGas Unmitigated	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411

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					
Junior High School	280.84	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.0300e-003**	**0.0275**	**0.0231**	**1.7000e-004**		**2.0900e-003**	**2.0900e-003**		**2.0900e-003**	**2.0900e-003**		**33.0400**	**33.0400**	**6.3000e-004**	**6.1000e-004**	**33.2411**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	0.203581	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
Total		**2.2000e-003**	**0.0200**	**0.0168**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**		**23.9507**	**23.9507**	**4.6000e-004**	**4.4000e-004**	**24.0964**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1690	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Unmitigated	0.2121	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	0.0485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	0.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Total	**0.2121**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8300e-003**	**1.8300e-003**	**1.0000e-005**		**1.9300e-003**

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	5.3800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Total	**0.1690**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8300e-003**	**1.8300e-003**	**1.0000e-005**		**1.9300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Casimir MS Gym

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	8.26	1000sqft	0.27	8,260.00	0
Other Non-Asphalt Surfaces	0.08	Acre	0.08	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - No architectural coating for the project surfaces.

Construction Phase - Based on information provided by the District.

Off-road Equipment - No equipment as verified by the District.

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - As verified by the District.

Off-road Equipment -

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - Hauling placeholder only, no separate equipment.

Off-road Equipment - As verified by the District.

Trips and VMT - Based on information provided and verified by the District. Vendors assigned to the Mass and Fine Grading phases represent assumed water truck trips.

Grading -

Architectural Coating - Based on information provided by the District.

Vehicle Trips - No new trips assumed.

Area Coating - Based on information provided by the District. Exterior surface area is anticipated to be 826 SF and is adjusted through the emission factor of the Area Mitigation tab due to software limitation.

Water And Wastewater - Assumes no new water generation.

Solid Waste - Assumes no new solid waste generation.

Construction Off-road Equipment Mitigation - Based SCAQMD Rules 403 and 1186.

Area Mitigation - As part of overall project development as indicated by the District. Exterior paint derived from anticipated total exterior surface area to be painted and from the anticipated exterior paint with 40 VOC g/L to be used.

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	4,130.00	826.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	12,390.00	11,151.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	40.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	35.00
tblAreaCoating	Area_Nonresidential_Interior	12390	11151
tblAreaMitigation	UseLowVOCPaintNonresidentialExterior Value	250	8
tblAreaMitigation	UseLowVOCPaintNonresidentialInterior Value	250	35
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	5.00	32.00
tblConstructionPhase	NumDays	100.00	213.00
tblConstructionPhase	NumDays	2.00	50.00
tblConstructionPhase	NumDays	2.00	15.00

tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	7.00
tblConstructionPhase	PhaseEndDate	3/3/2017	3/5/2017
tblConstructionPhase	PhaseEndDate	4/29/2016	2/19/2016
tblConstructionPhase	PhaseEndDate	3/11/2016	4/8/2016
tblConstructionPhase	PhaseEndDate	4/29/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	3/20/2016
tblConstructionPhase	PhaseStartDate	4/9/2016	4/11/2016
tblGrading	MaterialExported	0.00	300.00
tblGrading	MaterialExported	0.00	3,000.00
tblGrading	MaterialImported	0.00	3,300.00
tblLandUse	LandUseSquareFeet	3,484.80	0.00
tblLandUse	LotAcreage	0.19	0.27
tblOffRoadEquipment	HorsePower	255.00	199.00
tblOffRoadEquipment	LoadFactor	0.45	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	10.74	0.00

tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	7.00
tblTripsAndVMT	HaulingTripNumber	38.00	60.00
tblTripsAndVMT	HaulingTripNumber	788.00	1,260.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	3.00	35.00
tblTripsAndVMT	WorkerTripNumber	1.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblVehicleTrips	WD_TR	13.78	0.00
tblWater	IndoorWaterUseRate	170,329.50	0.00
tblWater	OutdoorWaterUseRate	437,990.13	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.3101	21.2499	24.3556	0.0365	1.3942	0.9355	2.3297	0.5835	0.8884	1.4719	0.0000	3,636.3308	3,636.3308	0.2884	0.0000	3,642.3878
2017	2.0637	13.1485	11.8780	0.0206	0.4224	0.8047	1.2271	0.1126	0.7812	0.8938	0.0000	1,868.2680	1,868.2680	0.2711	0.0000	1,873.9603
Total	**4.3739**	**34.3984**	**36.2336**	**0.0572**	**1.8166**	**1.7402**	**3.5568**	**0.6961**	**1.6696**	**2.3657**	**0.0000**	**5,504.5987**	**5,504.5987**	**0.5595**	**0.0000**	**5,516.3480**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.3101	21.2499	24.3556	0.0365	0.9361	0.9355	1.8716	0.3425	0.8884	1.2309	0.0000	3,636.3308	3,636.3308	0.2884	0.0000	3,642.3878
2017	2.0637	13.1485	11.8780	0.0206	0.4224	0.8047	1.2271	0.1126	0.7812	0.8938	0.0000	1,868.2680	1,868.2680	0.2711	0.0000	1,873.9603
Total	**4.3739**	**34.3984**	**36.2336**	**0.0572**	**1.3585**	**1.7402**	**3.0987**	**0.4551**	**1.6696**	**2.1247**	**0.0000**	**5,504.5987**	**5,504.5987**	**0.5595**	**0.0000**	**5,516.3480**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**25.22**	**0.00**	**12.88**	**34.62**	**0.00**	**10.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2121	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Energy	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2152**	**0.0275**	**0.0240**	**1.7000e-004**	**0.0000**	**2.0900e-003**	**2.0900e-003**	**0.0000**	**2.0900e-003**	**2.0900e-003**		**33.0418**	**33.0418**	**6.4000e-004**	**6.1000e-004**	**33.2430**

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	0.1690	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Energy	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.1712**	**0.0200**	**0.0176**	**1.2000e-004**	**0.0000**	**1.5200e-003**	**1.5200e-003**	**0.0000**	**1.5200e-003**	**1.5200e-003**		**23.9525**	**23.9525**	**4.7000e-004**	**4.4000e-004**	**24.0984**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.43**	**27.49**	**26.50**	**29.41**	**0.00**	**27.27**	**27.27**	**0.00**	**27.27**	**27.27**	**0.00**	**27.51**	**27.51**	**26.56**	**27.87**	**27.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mass Grading	Grading	2/1/2016	4/8/2016	5	50	
2	Mass Grading Haul 1	Grading	2/1/2016	2/19/2016	5	15	
3	Mass Grading Haul 2	Grading	3/20/2016	4/8/2016	5	15	
4	Trenching	Trenching	4/11/2016	5/1/2016	5	15	
5	Fine Grading	Grading	5/2/2016	5/10/2016	5	7	
6	Building Construction	Building Construction	5/11/2016	3/5/2017	5	213	
7	Architectural Coating	Architectural Coating	3/6/2017	4/18/2017	5	32	
8	Finishing/Landscaping	Trenching	4/19/2017	5/17/2017	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 11,151; Non-Residential Outdoor: 826 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mass Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Mass Grading	Rubber Tired Dozers	1	1.00	255	0.40
Mass Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Mass Grading Haul 1	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 1	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Mass Grading Haul 2	Concrete/Industrial Saws	0	8.00	81	0.73
Mass Grading Haul 2	Rubber Tired Dozers	0	1.00	255	0.40
Mass Grading Haul 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Fine Grading	Rubber Tired Dozers	1	1.00	255	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.74
Architectural Coating	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Rubber Tired Dozers	1	8.00	199	0.40

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
Mass Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 1	0	0.00	0.00	60.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Mass Grading Haul 2	0	0.00	0.00	1,260.00	14.70	6.90	7.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	4	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	35.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mass Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674		1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.7528**	**0.8039**	**1.5566**	**0.4138**	**0.7674**	**1.1811**		**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0372	0.3588	0.4951	8.7000e-004	0.0250	5.5300e-003	0.0305	7.1000e-003	5.0900e-003	0.0122		87.3568	87.3568	6.7000e-004		87.3708
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0604**	**0.3899**	**0.8208**	**1.5600e-003**	**0.0808**	**6.0600e-003**	**0.0869**	**0.0219**	**5.5800e-003**	**0.0275**		**145.3584**	**145.3584**	**4.0200e-003**		**145.4426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3218	0.0000	0.3218	0.1769	0.0000	0.1769			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674	0.0000	1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.3218**	**0.8039**	**1.1257**	**0.1769**	**0.7674**	**0.9442**	**0.0000**	**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0372	0.3588	0.4951	8.7000e-004	0.0250	5.5300e-003	0.0305	7.1000e-003	5.0900e-003	0.0122		87.3568	87.3568	6.7000e-004		87.3708
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0604**	**0.3899**	**0.8208**	**1.5600e-003**	**0.0808**	**6.0600e-003**	**0.0869**	**0.0219**	**5.5800e-003**	**0.0275**		**145.3584**	**145.3584**	**4.0200e-003**		**145.4426**

3.3 Mass Grading Haul 1 - 2016

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					2.2600e-003	0.0000	2.2600e-003	3.4000e-004	0.0000	3.4000e-004			0.0000			0.0000
Off-Road	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**	**2.2600e-003**	**0.0000**	**2.2600e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0447	0.4582	0.7062	1.0900e-003	0.0244	5.9800e-003	0.0304	6.6900e-003	5.5000e-003	0.0122		109.3982	109.3982	9.4000e-004		109.4179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.0447**	**0.4582**	**0.7062**	**1.0900e-003**	**0.0244**	**5.9800e-003**	**0.0304**	**6.6900e-003**	**5.5000e-003**	**0.0122**		**109.3982**	**109.3982**	**9.4000e-004**		**109.4179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7000e-004	0.0000	9.7000e-004	1.5000e-004	0.0000	1.5000e-004			0.0000			0.0000
Off-Road	0.0000	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**	**9.7000e-004**	**0.0000**	**9.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0447	0.4582	0.7062	1.0900e-003	0.0244	5.9800e-003	0.0304	6.6900e-003	5.5000e-003	0.0122		109.3982	109.3982	9.4000e-004		109.4179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.0447**	**0.4582**	**0.7062**	**1.0900e-003**	**0.0244**	**5.9800e-003**	**0.0304**	**6.6900e-003**	**5.5000e-003**	**0.0122**		**109.3982**	**109.3982**	**9.4000e-004**		**109.4179**

3.4 Mass Grading Haul 2 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0475	0.0000	0.0475	7.1900e-003	0.0000	7.1900e-003			0.0000			0.0000
Off-Road	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**	**0.0475**	**0.0000**	**0.0475**	**7.1900e-003**	**0.0000**	**7.1900e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.9376	9.6215	14.8300	0.0229	0.5131	0.1256	0.6387	0.1406	0.1155	0.2561		2,297.3618	2,297.3618	0.0197		2,297.7763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.9376**	**9.6215**	**14.8300**	**0.0229**	**0.5131**	**0.1256**	**0.6387**	**0.1406**	**0.1155**	**0.2561**		**2,297.3618**	**2,297.3618**	**0.0197**		**2,297.7763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0203	0.0000	0.0203	3.0700e-003	0.0000	3.0700e-003			0.0000			0.0000
Off-Road	0.0000	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**	**0.0203**	**0.0000**	**0.0203**	**3.0700e-003**	**0.0000**	**3.0700e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.9376	9.6215	14.8300	0.0229	0.5131	0.1256	0.6387	0.1406	0.1155	0.2561		2,297.3618	2,297.3618	0.0197		2,297.7763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**0.9376**	**9.6215**	**14.8300**	**0.0229**	**0.5131**	**0.1256**	**0.6387**	**0.1406**	**0.1155**	**0.2561**		**2,297.3618**	**2,297.3618**	**0.0197**		**2,297.7763**

3.5 Trenching - 2016

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	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**		**323.6773**	**323.6773**	**0.0976**		**325.7276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0232**	**0.0311**	**0.3257**	**6.9000e-004**	**0.0559**	**5.3000e-004**	**0.0564**	**0.0148**	**4.9000e-004**	**0.0153**		**58.0016**	**58.0016**	**3.3500e-003**		**58.0718**

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	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**	**0.0000**	**323.6773**	**323.6773**	**0.0976**		**325.7276**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0232**	**0.0311**	**0.3257**	**6.9000e-004**	**0.0559**	**5.3000e-004**	**0.0564**	**0.0148**	**4.9000e-004**	**0.0153**		**58.0016**	**58.0016**	**3.3500e-003**		**58.0718**

3.6 Fine Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674		1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.7528**	**0.8039**	**1.5566**	**0.4138**	**0.7674**	**1.1811**		**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0372	0.3588	0.4951	8.7000e-004	0.0250	5.5300e-003	0.0305	7.1000e-003	5.0900e-003	0.0122		87.3568	87.3568	6.7000e-004		87.3708
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0604**	**0.3899**	**0.8208**	**1.5600e-003**	**0.0808**	**6.0600e-003**	**0.0869**	**0.0219**	**5.5800e-003**	**0.0275**		**145.3584**	**145.3584**	**4.0200e-003**		**145.4426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3218	0.0000	0.3218	0.1769	0.0000	0.1769			0.0000			0.0000
Off-Road	1.3122	11.2385	8.7048	0.0120		0.8039	0.8039		0.7674	0.7674	0.0000	1,193.6106	1,193.6106	0.2386		1,198.6217
Total	**1.3122**	**11.2385**	**8.7048**	**0.0120**	**0.3218**	**0.8039**	**1.1257**	**0.1769**	**0.7674**	**0.9442**	**0.0000**	**1,193.6106**	**1,193.6106**	**0.2386**		**1,198.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0372	0.3588	0.4951	8.7000e-004	0.0250	5.5300e-003	0.0305	7.1000e-003	5.0900e-003	0.0122		87.3568	87.3568	6.7000e-004		87.3708
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	**0.0604**	**0.3899**	**0.8208**	**1.5600e-003**	**0.0808**	**6.0600e-003**	**0.0869**	**0.0219**	**5.5800e-003**	**0.0275**		**145.3584**	**145.3584**	**4.0200e-003**		**145.4426**

3.7 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0939	13.5289	9.4818	0.0147		0.8884	0.8884		0.8631	0.8631		1,376.3790	1,376.3790	0.2642		1,381.9268
Total	**2.0939**	**13.5289**	**9.4818**	**0.0147**		**0.8884**	**0.8884**		**0.8631**	**0.8631**		**1,376.3790**	**1,376.3790**	**0.2642**		**1,381.9268**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0465	0.4485	0.6189	1.0900e-003	0.0312	6.9100e-003	0.0381	8.8700e-003	6.3600e-003	0.0152		109.1961	109.1961	8.3000e-004		109.2135
Worker	0.1622	0.2176	2.2798	4.8000e-003	0.3912	3.7000e-003	0.3949	0.1038	3.4000e-003	0.1072		406.0109	406.0109	0.0234		406.5026
Total	**0.2086**	**0.6661**	**2.8987**	**5.8900e-003**	**0.4224**	**0.0106**	**0.4330**	**0.1126**	**9.7600e-003**	**0.1224**		**515.2069**	**515.2069**	**0.0243**		**515.7162**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0939	13.5289	9.4818	0.0147		0.8884	0.8884		0.8631	0.8631	0.0000	1,376.3790	1,376.3790	0.2642		1,381.9268
Total	**2.0939**	**13.5289**	**9.4818**	**0.0147**		**0.8884**	**0.8884**		**0.8631**	**0.8631**	**0.0000**	**1,376.3790**	**1,376.3790**	**0.2642**		**1,381.9268**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0465	0.4485	0.6189	1.0900e-003	0.0312	6.9100e-003	0.0381	8.8700e-003	6.3600e-003	0.0152		109.1961	109.1961	8.3000e-004		109.2135
Worker	0.1622	0.2176	2.2798	4.8000e-003	0.3912	3.7000e-003	0.3949	0.1038	3.4000e-003	0.1072		406.0109	406.0109	0.0234		406.5026
Total	**0.2086**	**0.6661**	**2.8987**	**5.8900e-003**	**0.4224**	**0.0106**	**0.4330**	**0.1126**	**9.7600e-003**	**0.1224**		**515.2069**	**515.2069**	**0.0243**		**515.7162**

3.7 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8760	12.5430	9.2338	0.0147		0.7950	0.7950		0.7723	0.7723		1,370.0302	1,370.0302	0.2486		1,375.2512
Total	**1.8760**	**12.5430**	**9.2338**	**0.0147**		**0.7950**	**0.7950**		**0.7723**	**0.7723**		**1,370.0302**	**1,370.0302**	**0.2486**		**1,375.2512**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0423	0.4087	0.5870	1.0900e-003	0.0312	6.1600e-003	0.0374	8.8800e-003	5.6600e-003	0.0145		107.4503	107.4503	8.1000e-004		107.4672
Worker	0.1454	0.1968	2.0572	4.8000e-003	0.3912	3.5400e-003	0.3948	0.1038	3.2700e-003	0.1070		390.7874	390.7874	0.0216		391.2419
Total	**0.1877**	**0.6054**	**2.6442**	**5.8900e-003**	**0.4224**	**9.7000e-003**	**0.4321**	**0.1126**	**8.9300e-003**	**0.1216**		**498.2377**	**498.2377**	**0.0225**		**498.7091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8760	12.5430	9.2338	0.0147		0.7950	0.7950		0.7723	0.7723	0.0000	1,370.0302	1,370.0302	0.2486		1,375.2512
Total	**1.8760**	**12.5430**	**9.2338**	**0.0147**		**0.7950**	**0.7950**		**0.7723**	**0.7723**	**0.0000**	**1,370.0302**	**1,370.0302**	**0.2486**		**1,375.2512**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0423	0.4087	0.5870	1.0900e-003	0.0312	6.1600e-003	0.0374	8.8800e-003	5.6600e-003	0.0145		107.4503	107.4503	8.1000e-004		107.4672
Worker	0.1454	0.1968	2.0572	4.8000e-003	0.3912	3.5400e-003	0.3948	0.1038	3.2700e-003	0.1070		390.7874	390.7874	0.0216		391.2419
Total	**0.1877**	**0.6054**	**2.6442**	**5.8900e-003**	**0.4224**	**9.7000e-003**	**0.4321**	**0.1126**	**8.9300e-003**	**0.1216**		**498.2377**	**498.2377**	**0.0225**		**498.7091**

3.8 Architectural Coating - 2017

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	0.6132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.6132**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0416	0.0562	0.5878	1.3700e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		111.6535	111.6535	6.1800e-003		111.7834
Total	**0.0585**	**0.2197**	**0.8226**	**1.8100e-003**	**0.1243**	**3.4700e-003**	**0.1277**	**0.0332**	**3.1900e-003**	**0.0364**		**154.6337**	**154.6337**	**6.5000e-003**		**154.7703**

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	0.6132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	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	**0.6132**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0416	0.0562	0.5878	1.3700e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		111.6535	111.6535	6.1800e-003		111.7834
Total	**0.0585**	**0.2197**	**0.8226**	**1.8100e-003**	**0.1243**	**3.4700e-003**	**0.1277**	**0.0332**	**3.1900e-003**	**0.0364**		**154.6337**	**154.6337**	**6.5000e-003**		**154.7703**

3.9 Finishing/Landscaping - 2017

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	0.9919	10.7691	3.7276	6.8700e-003		0.5272	0.5272		0.4850	0.4850		704.1244	704.1244	0.2157		708.6550
Total	**0.9919**	**10.7691**	**3.7276**	**6.8700e-003**		**0.5272**	**0.5272**		**0.4850**	**0.4850**		**704.1244**	**704.1244**	**0.2157**		**708.6550**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0281	0.2939	6.9000e-004	0.0559	5.1000e-004	0.0564	0.0148	4.7000e-004	0.0153		55.8268	55.8268	3.0900e-003		55.8917
Total	**0.0208**	**0.0281**	**0.2939**	**6.9000e-004**	**0.0559**	**5.1000e-004**	**0.0564**	**0.0148**	**4.7000e-004**	**0.0153**		**55.8268**	**55.8268**	**3.0900e-003**		**55.8917**

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	0.9919	10.7691	3.7276	6.8700e-003		0.5272	0.5272		0.4850	0.4850	0.0000	704.1244	704.1244	0.2157		708.6550
Total	**0.9919**	**10.7691**	**3.7276**	**6.8700e-003**		**0.5272**	**0.5272**		**0.4850**	**0.4850**	**0.0000**	**704.1244**	**704.1244**	**0.2157**		**708.6550**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0281	0.2939	6.9000e-004	0.0559	5.1000e-004	0.0564	0.0148	4.7000e-004	0.0153		55.8268	55.8268	3.0900e-003		55.8917
Total	**0.0208**	**0.0281**	**0.2939**	**6.9000e-004**	**0.0559**	**5.1000e-004**	**0.0564**	**0.0148**	**4.7000e-004**	**0.0153**		**55.8268**	**55.8268**	**3.0900e-003**		**55.8917**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	16.60	8.40	6.90	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
NaturalGas Unmitigated	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411

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					
Junior High School	280.84	3.0300e-003	0.0275	0.0231	1.7000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003		33.0400	33.0400	6.3000e-004	6.1000e-004	33.2411
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.0300e-003**	**0.0275**	**0.0231**	**1.7000e-004**		**2.0900e-003**	**2.0900e-003**		**2.0900e-003**	**2.0900e-003**		**33.0400**	**33.0400**	**6.3000e-004**	**6.1000e-004**	**33.2411**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	0.203581	2.2000e-003	0.0200	0.0168	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003		23.9507	23.9507	4.6000e-004	4.4000e-004	24.0964
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.2000e-003**	**0.0200**	**0.0168**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**		**23.9507**	**23.9507**	**4.6000e-004**	**4.4000e-004**	**24.0964**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1690	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Unmitigated	0.2121	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Total	**0.2121**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8300e-003**	**1.8300e-003**	**1.0000e-005**		**1.9300e-003**

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	5.3800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8300e-003	1.8300e-003	1.0000e-005		1.9300e-003
Total	**0.1690**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8300e-003**	**1.8300e-003**	**1.0000e-005**		**1.9300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Construction Localized Significance Thresholds: Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
3	0.81	25	82

Source Receptor Distance (meters)	Southwest Coastal LA County	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
	25	Tractors	0.5	0.0625	2	6	0.75
NOx	**91**	Graders	0.5	0.0625			0
CO	**664**	Dozers	0.5	0.0625	1	1	0.0625
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.81

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	91	93	107	139	218
	1	91	93	107	139	218
		91	93	107	139	218
CO	1	664	785	1156	2228	7269
	1	664	785	1156	2228	7269
		664	785	1156	2228	7269
PM10	1	5	14	28	56	140
	1	5	14	28	56	140
		5	14	28	56	140
PM2.5	1	3	5	9	21	75
	1	3	5	9	21	75
		3	5	9	21	75

Southwest Coastal LA County

0.81 Acres

	25	**50**	**100**	**200**	**500**
NOx	91	93	107	139	218
CO	664	785	1156	2228	7269
PM10	5	14	28	56	140
PM2.5	3	5	9	21	75

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
3	1	3	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Utility Trenching

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
3	0.50	25	82

Source Receptor Distance (meters)	Southwest Coastal LA County	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
	25	Tractors	0.5	0.0625	1	8	0.5
NOx	**91**	Graders	0.5	0.0625			0
CO	**664**	Dozers	0.5	0.0625			0
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	91	93	107	139	218
	1	91	93	107	139	218
		91	93	107	139	218
CO	1	664	785	1156	2228	7269
	1	664	785	1156	2228	7269
		664	785	1156	2228	7269
PM10	1	5	14	28	56	140
	1	5	14	28	56	140
		5	14	28	56	140
PM2.5	1	3	5	9	21	75
	1	3	5	9	21	75
		3	5	9	21	75

Southwest Coastal LA County

0.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	91	93	107	139	218
CO	664	785	1156	2228	7269
PM10	5	14	28	56	140
PM2.5	3	5	9	21	75

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
3	1	3	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
3	0.00	25	82

Source Receptor Distance (meters)	Southwest Coastal LA County	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
	25	Tractors	0.5	0.0625			0
NOx	**91**	Graders	0.5	0.0625			0
CO	**664**	Dozers	0.5	0.0625			0
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	91	93	107	139	218
	1	91	93	107	139	218
		91	93	107	139	218
CO	1	664	785	1156	2228	7269
	1	664	785	1156	2228	7269
		664	785	1156	2228	7269
PM10	1	5	14	28	56	140
	1	5	14	28	56	140
		5	14	28	56	140
PM2.5	1	3	5	9	21	75
	1	3	5	9	21	75
		3	5	9	21	75

Southwest Coastal LA County

0.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	91	93	107	139	218
CO	664	785	1156	2228	7269
PM10	5	14	28	56	140
PM2.5	3	5	9	21	75

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
3	1	3	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Finishing/Landscaping

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
3	0.50	25	82

Source Receptor Distance (meters)	Southwest Coastal LA County	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
	25	Tractors	0.5	0.0625			0
NOx	**91**	Graders	0.5	0.0625			0
CO	**664**	Dozers	0.5	0.0625	1	8	0.5
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	91	93	107	139	218
	1	91	93	107	139	218
		91	93	107	139	218
CO	1	664	785	1156	2228	7269
	1	664	785	1156	2228	7269
		664	785	1156	2228	7269
PM10	1	5	14	28	56	140
	1	5	14	28	56	140
		5	14	28	56	140
PM2.5	1	3	5	9	21	75
	1	3	5	9	21	75
		3	5	9	21	75

Southwest Coastal LA County

0.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	91	93	107	139	218
CO	664	785	1156	2228	7269
PM10	5	14	28	56	140
PM2.5	3	5	9	21	75

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
3	1	3	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Operation Localized Significance Thresholds

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
3	5.00	25	82

Source Receptor **Southwest Coastal LA County**

Distance (meters) 25

NOx **197**

CO **1,769**

PM10 **4.00**

PM2.5 **2.00**

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	197	189	202	222	277
	5	197	189	202	222	277
		197	189	202	222	277
CO	5	1769	1984	2608	4119	9852
	5	1769	1984	2608	4119	9852
		1769	1984	2608	4119	9852
PM10	5	4	12	15	21	41
	5	4	12	15	21	41
		4	12	15	21	41
PM2.5	5	2	3	5	9	24
	5	2	3	5	9	24
		2	3	5	9	24

Southwest Coastal LA County

5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	197	189	202	222	277
CO	1769	1984	2608	4119	9852
PM10	4	12	15	21	41
PM2.5	2	3	5	9	24

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
3	5	3	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2010 - Table C-1. 2006 – 2008

TORRANCE AP, CALIFORNIA (048973)

Period of Record Monthly Climate Summary

Period of Record : 01/01/1932 to 01/19/2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	65.9	66.5	67.4	69.6	71.6	73.8	77.6	78.6	78.0	75.4	71.5	66.9	71.9
Average Min. Temperature (F)	44.3	45.8	47.4	49.9	53.5	56.7	60.2	61.1	59.5	55.4	48.9	45.0	52.3
Average Total Precipitation (in.)	3.04	3.23	2.03	0.84	0.18	0.06	0.02	0.06	0.22	0.42	1.31	2.15	13.55
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 98.5% Min. Temp.: 98.4% Precipitation: 99.2% Snowfall: 99.4% Snow Depth: 99.4%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Appendix B Noise Background and Modeling Data

Appendix

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Torrance Unified School District

Noise & Vibration Technical Information

City of Torrance General Plan Noise Element

CHAPTER 5

NOISE ELEMENT

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CHAPTER

5 NOISE ELEMENT

INTRODUCTION

Noise that is experienced by people who did not produce it is "second-hand sound," and is among the most pervasive pollutants today. Like second-hand smoke, it has detrimental effects on people who had no part in creating it.
- Noise Pollution Clearinghouse, 2004

Excessive noise can disrupt our lives. Noise can interrupt our conversations, thoughts, and leisure activities. Noise sensitivity varies depending on the time of day, its duration and pitch, and preferences of individuals. Despite this variability, most residents agree that too much noise or the wrong type of noise can be irritating and interfere with sleep, speech, recreation, and tasks that require concentration or coordination. Therefore, noise not only decreases environmental quality but can also adversely affect our physical and mental health.

In Torrance, street and freeway traffic represent the primary source of noise. The I-405 Freeway, which traverses the northeastern portion of the City, presents concerns where it runs adjacent to residential neighborhoods and schools. Other significant sources of noise include arterial roadways and intersections, the Santa Fe Railroad, and Torrance Municipal Airport.

Because Torrance is largely built out and the street system well developed, the City faces challenges in separating noise-sensitive land uses from primary noise sources. Thus, the Noise Element establishes policies to guard against creation of any new noise/land use conflicts and to minimize the impact of existing noise sources on the community.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

Land use relationships and noise associated with roadways, train traffic, and operations at Torrance Municipal Airport represent the focus of community noise concerns. Therefore, policies in this Noise Element are tied most closely to policies and programs set forth in the Land Use and Circulation Elements. For example, community noise standards affect the location or treatment of proposed new land uses, such as uses within the noise contours of the airport. With regard to the local road network, this Element contains noise contour maps that identify anticipated noise levels associated with future traffic volumes, and includes policies and programs intended to reduce adverse noise conditions.

SCOPE AND REQUIREMENTS OF THE NOISE ELEMENT

In recognition of the adverse health effects associated with excessive noise, the California Government Code, Section 65302(f) very specifically identifies the types of community noise to be addressed in the General Plan. The Noise Element addresses noise sources from:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Commercial, general aviation, heliport, and military airport operations, aircraft over-flights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operations
- Local industrial plants, including, but not limited to, railroad classification yards
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment

1. MEASURING NOISE

Noise is often described as unwanted or irritating sound. Defining noise with a single unit of measure is difficult because noise consists of several components — pitch, loudness, and duration — and because noise includes subjective qualities. At the objective level, scientists have developed the A-weighted sound pressure level, or dB(A), to describe the loudness of a sound or sound environment based on the sensitivity of the human ear. At 60 dB(A), noise

impairs the ability to hear speech, and sound levels over 40 to 45 dB(A) can disturb sleep. A person's likelihood of hearing loss strongly increases at prolonged exposure to sound levels over 85 dB(A). To provide some perspective on the relative loudness of various types of noise, Table N-1 lists common sources of noise and their approximate noise levels.

Table N-1
Typical Noise Levels

Common Outdoor Activities	Noise Level in dB(A)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 1,000 feet	100	
	90	
Diesel Truck at 50 feet at 50 mph		Food Blender at three feet
	80	Garbage Disposal at three feet
Noisy Urban Area, Daytime		
Gas Lawn Mower at 3 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night
		Concert Hall (background sound)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Table N-2136.2 of California Department of Transportation's Traffic Noise Analysis Protocol (October 1998).

Table N-2 describes State criteria for minimizing harmful noise effects.

Table N-2
State Criteria for Minimizing Adverse Noise Effects on Humans

Objective	dB(A) Range
Prevent Hearing Loss	75-80
Prevent Physiological Effects (other than hearing loss)	65-75
Prevent Speech Interference	50-60
Address People's Subjective Preference for Noise Control	45-50
Prevent Sleep Interruption	35-45

Source: California General Plan Guidelines, 2000.

Acousticians have developed noise metrics to account for the fact that noise during nighttime hours can be more bothersome than daytime noise. The noise metrics apply a weighted ambient noise level average over a 24-hour period, and assigns "penalties" to noise that occurs between 10:00 P.M. to 7:00 A.M. These metrics are defined as either the Community Equivalent Noise Level (CNEL) or Day-Night Level (Ldn).

Figure N-1 shows common CNEL and Ldn noise exposure levels at different locations. The highest dB(A) level is listed for the area next to a freeway, which has a noise exposure level of 85 dB(A). The lowest dBA level is listed for a farm, which is 40 dB(A). The figure also indicates that 65 dB(A) is the common standard for noise level in outdoor residential areas, and 45 dB(A) is the common standard for the interior of residences

The objectives and policies in this element aim to meet the City's overarching goal for noise regulation in the City of Torrance:

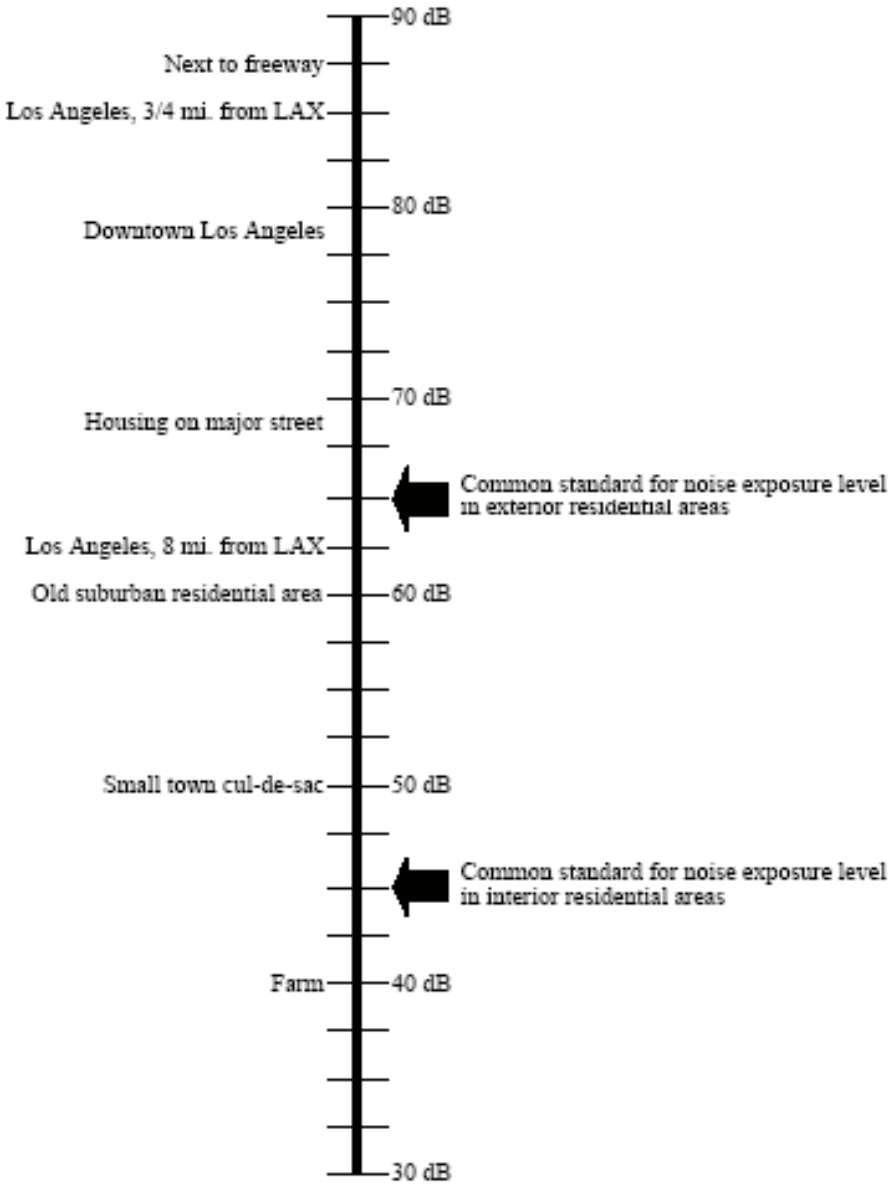
GOAL: Minimize exposure of residents to noise

2. BASELINE NOISE CONDITIONS

The community noise environment can be described using contours derived from monitoring major sources of noise. Noise contours are analogous to topographic contours on a map showing terrain. Just as topographic contours illustrate elevations of the ground surface, noise contours define noise levels at particular locations. The contours generally represent average noise levels, such as the CNEL or Ldn, based on major noise sources in the community. The contours assist in setting policies for distribution of land uses and establishment of development standards.

A study of baseline noise sources and levels was completed in August, 2006. Noise level measurements were collected during a typical weekday at 20 locations throughout Torrance. Criteria for site selection included geographical distribution, land uses suspected of noisy activities, and proximity to transportation facilities and sensitive receptor locations. The primary purpose of noise monitoring was to establish a noise profile for the community that could be used to determine areas of concern.

Figure N-2 shows noise contours for noise conditions in Torrance in 2006. The contours account for the many noise sources in the City, including I-405, arterial and collector roadways, train operations along the Santa Fe Railroad, the Honeywell facility, and Torrance Airport. Each source is described in greater detail in Figure N-1.



Source: Wieland Associates, Inc., July 2006.

Figure N-1:
Common CNEL and Ldn Noise Exposure Levels at Various Locations

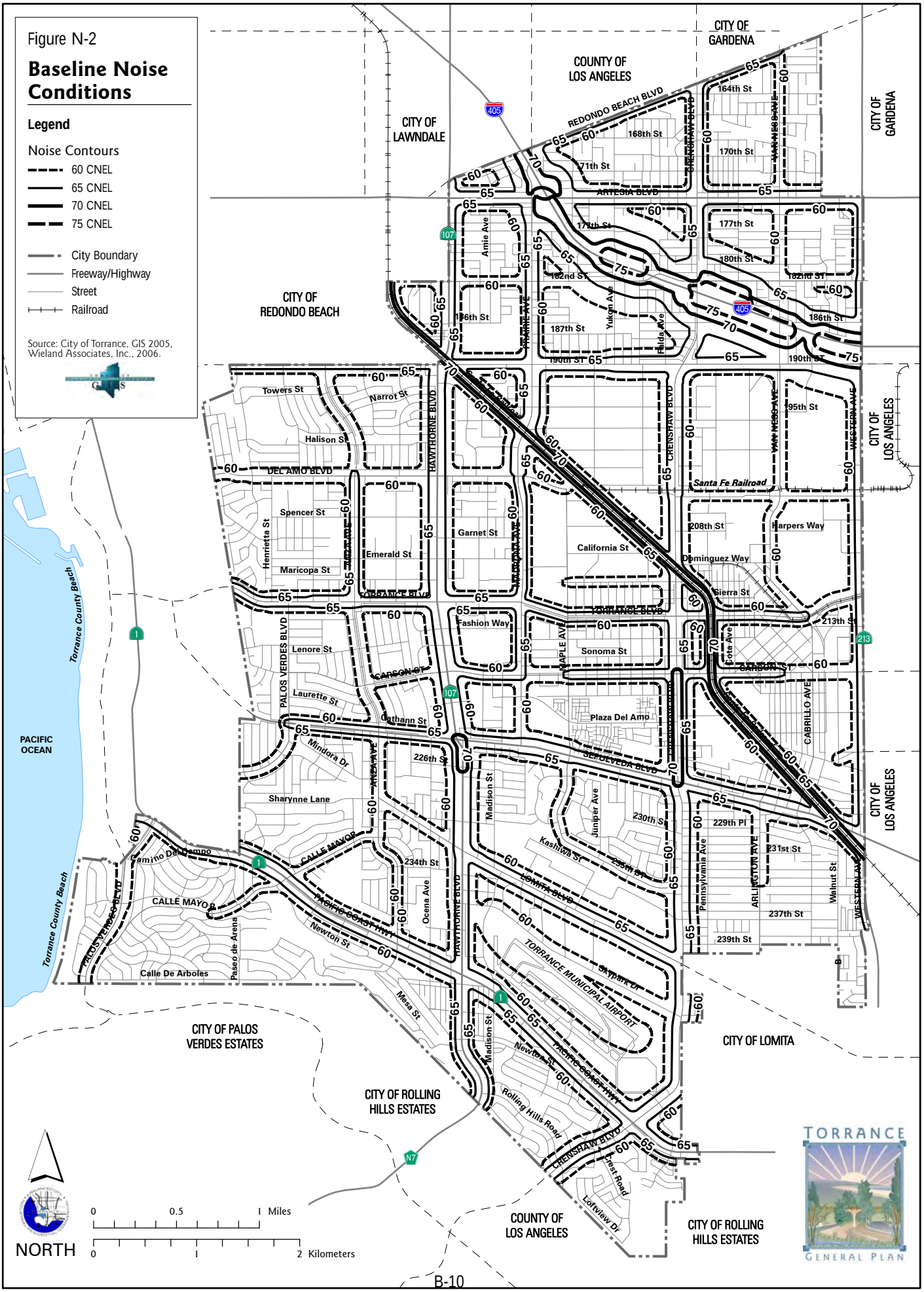


Figure N-2
Baseline Noise Conditions
Legend
Noise Contours
60 CNEL
65 CNEL
70 CNEL
75 CNEL
City Boundary
Freeway/Highway
Street
Railroad
Source: City of Torrance, GIS 2005, Wieland Associates, Inc., 2006.
CITY OF GARDENA
COUNTY OF LOS ANGELES
CITY OF LAWNDALE
CITY OF REDONDO BEACH
CITY OF LOS ANGELES
Santa Fe Railroad
PACIFIC OCEAN
Torrance County Beach
CITY OF PALOS VERDES ESTATES
CITY OF ROLLING HILLS ESTATES
CITY OF LOMITA
REDONDO BEACH BLVD
ARTESIA BLVD
DEL AMO BLVD
TORRANCE BLVD
CARSON ST
SEPULVEDA BLVD
LOMITA BLVD
PACIFIC COAST HWY
CRENSHAW BLVD
HAWTHORNE BLVD
PALOS VERDES BLVD
NORMANDIE AVE
VERMONT AVE
WESTERN AVE
ANZA AVE
MAPLE AVE
CABRILLO AVE
ARLINGTON AVE
Pennsylvania Ave
Madison St
Juniper Ave
Ocena Ave
Amie Ave
Yukon Ave
Flida Ave
Foto Ave
Henrietta St
Towers St
Narrot St
Halison St
Spencer St
Maricopa St
Emerald St
Garnet St
California St
Fashion Way
Lenore St
Laurette St
Gathann St
Sonoma St
Plaza Del Amo
Mindora Dr
Sharynne Lane
Kashiwa St
Skypark Dr
Rolling Hills Road
Crest Road
Loftview Dr
Calle De Arboles
Paseo de Arena
Newton St
Mesa St
Camino Del Campo
CALLE MAYOR
Harpers Way
Dominguez Way
Sierra St
164th St
168th St
170th St
171th St
177th St
180th St
182nd St
186th St
187th St
190th St
195th St
208th St
213th St
226th St
230th St
231st St
234th St
235th St
237th St
239th St
229th Pl
TORRANCE MUNICIPAL AIRPORT
0 0.5 1 Miles
0 1 2 Kilometers
NORTH
TORRANCE GENERAL PLAN

2.1 TRANSPORTATION-RELATED NOISE

2.1.1 I-405 FREEWAY

Interstate 405 crosses the northeastern portion of Torrance and is busy for most daylight hours. Traffic levels create noise conditions in excess of 65 CNEL along the freeway's path. As noted in Figure N-1, this is generally considered the threshold noise level for residential use. Figure N-2 shows that several residential neighborhoods and public facilities are exposed to high noise levels from freeway traffic.

As freeways are under the jurisdiction of Caltrans, this State agency is responsible for addressing noise abatement issues where Caltrans' activities have created adverse noise conditions, pursuant to the Streets and Highway Code. Consistent with Section 216 of the Code, Caltrans has, for example, implemented a School Noise Abatement Program that takes measures to reduce classroom interior noise levels to below 52 dB(A). Yukon Elementary, located immediately north of I-405 between Crenshaw Boulevard and Prairie Avenue, is exposed to noise levels of 75 dB(A) and higher; the school has benefitted from soundproofing and air-conditioning as part of this program.[1] As regional traffic continues to increase, freeway noise mitigation will continue to be a key policy issue for Torrance.

2.1.2 MAJOR ROADWAYS

Residents whose homes either abut or are in proximity to major roadways may experience high noise levels during peak commute hours. Generally, Torrance's historic land use patterns have resulted in commercial and industrial land uses along arterial roadways. Also, the noise contours shown on Figure N-2 indicate that roadway noise generally does not exceed 65 CNEL. As of 2006, the only roadway sections with noise levels at or above 65 CNEL were Crenshaw Boulevard between Carson Street and Sepulveda Boulevard and the intersection of Sepulveda Boulevard and Hawthorne Boulevard.

2.1.3 SANTA FE RAILROAD

In Torrance, noise from the Santa Fe Railroad is sporadic because trains do not run continuously throughout the day. However, when trains do run through the City, they are as noisy as peak hours of automobile and truck traffic. Freight trains pass through Torrance daily in route to and from Long Beach. Figure N-2 indicates that, compared to noise effects of I-405, a limited buffer area surrounding the railroad is exposed to noise levels of 60 CNEL or higher.

[1] Caltrans District 7, Project Information, Soundwalls.
http://www.dot.ca.gov/dist07/aboutdist7/projects/soundwalls_02/index.php?strpg=noise

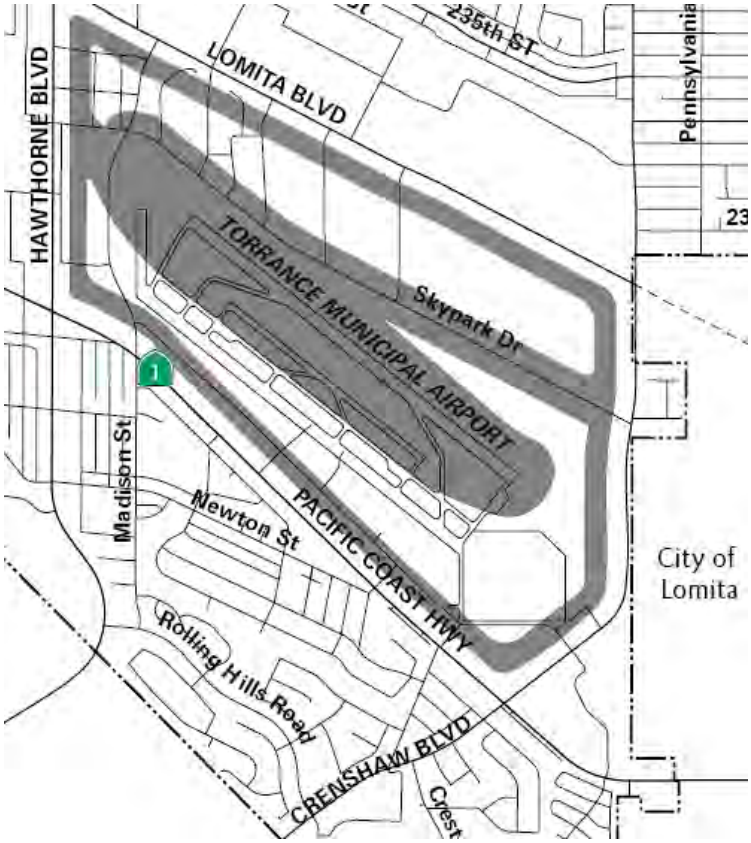


Figure N-3:
Noise Conditions, Torrance Airport

A few residential uses near the intersection of Torrance Boulevard and the railroad line are adversely impacted by railroad noise.

2.1.4 TORRANCE MUNICIPAL AIRPORT (ZAMPERINI FIELD)

Torrance Municipal Airport is a general aviation facility that accommodates both propeller and jet aircraft (although jet traffic is limited by the fact that jet fuel is not sold at the airport). The Torrance Municipal Code includes stringent noise standards intended to make the airport compatible with adjacent land uses. The airport follows the Federal Aviation Administration's (FAA) land use restrictions, which regulate land uses surrounding airports and flight paths. In addition to safety concerns, these restrictions also restrict incompatible land uses near airports because of noise concerns. The City also has adopted a strict Airport Noise Abatement Program. Noise monitors report excessive aircraft noise to City staff, and staff works with pilots to find ways to meet the established noise limits.

The City's Noise Abatement program has resulted in reduced noise complaints from aircraft activity at Torrance Airport.

Figure N-3 indicates that critical noise contours associated with Torrance Airport do not impact any residential neighborhoods. In fact, most of the 60 dBA noise contour is confined to airport property, although properties along the north most sections of Skypark Drive are marginally affected by noise. The majority of noise affecting the rest of Skypark Drive, Hawthorne Boulevard, and Pacific Coast Highway is automobile related.

Adjacent to Torrance Airport, Robinson Helicopter manufactures civil helicopters. Helicopter noise often may be more irritating than noise from other aircraft because helicopters operate at low altitudes and therefore produce more noise. Robinson Helicopter adheres to the City's noise standards to ensure that late-night helicopter operations are limited.

2.2 NON-TRANSPORTATION NOISE

Non-transportation noise sources include various activities in commercial and industrial districts, which may include potential stationary noise sources.

As a matter of practice, the City reviews all development applications to identify issues of concern, including potential noise exposure and generation. An acoustical analysis is required for projects that could have potentially adverse noise effects on sensitive receptors such as schools, hospitals,

churches, and residential neighborhoods. Mitigating features or conditions must be included in a project when significant noise impacts are identified.

Other sources of community noise are often associated with ordinary daily activities such as property maintenance and construction. Excessive noise from lawnmowers, leaf blowers, mechanical equipment, power tools, and the like can generate complaints when noise-generating activities occur in the evening or during restful weekend hours. The City's noise standards will be implemented to help maintain optimal interior and exterior noise levels within residential areas.

3. FUTURE NOISE CONDITIONS

As Torrance is largely developed, new development over time will be limited to the recycling of uses to slightly higher densities and intensities at limited locations. The long-established land use patterns generally will not change. More intense development will be focused along major corridors, such as Hawthorne Boulevard.

Over the long term, noise conditions in Torrance are not anticipated to change significantly from the baseline conditions modeled in 2006. Future noise contours have been developed based on anticipated traffic volumes, rail traffic, airport operations, and general land use activity. These contours assist in the review of land use and development proposals. Figure N-4 presents the projected noise contours and noise impact areas.

Overall, the increase in noise over the life of the General Plan is minimal. The primary stationary noise sources — Torrance Municipal Airport and major industrial operations — will continue to exist. Roadway noise along major roads such as Hawthorne Boulevard and Crenshaw Boulevard will increase slightly due to increase in traffic volumes mostly attributable to regional growth. Small entryway segments of Torrance Boulevard and Carson Street at the east end of the City will also experience minimal increases in noise. A small segment of Prairie Avenue just north and south of the I-405 will also experience an increase in noise levels attributable to expected traffic growth along the I-405. Areas that are expected to experience increased noise levels are primarily limited to non-residential areas. Most residential areas will not experience noise levels above baseline conditions with the exception of two short segments of Palos Verdes Boulevard (the segment from Torrance Boulevard to Sepulveda Boulevard and a segment just north of Calle Mayor).

Table N-3 establishes the noise/land use compatibility criteria Torrance will use in determining whether a new use is appropriate within a given noise environment.

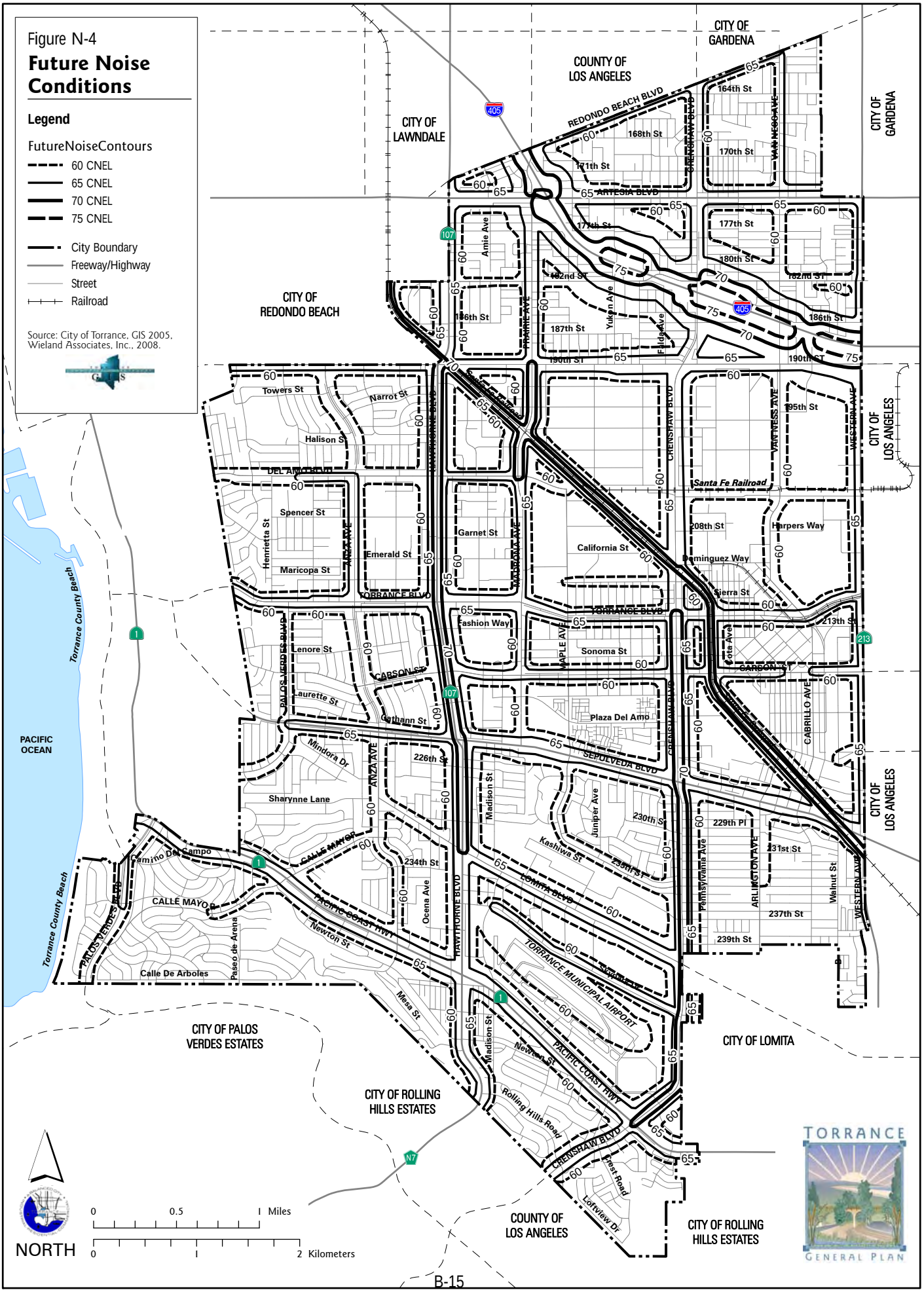


Figure N-4
Future Noise Conditions
Legend
FutureNoiseContours
60 CNEL
65 CNEL
70 CNEL
75 CNEL
City Boundary
Freeway/Highway
Street
Railroad
Source: City of Torrance, GIS 2005, Wieland Associates, Inc., 2008.
CITY OF GARDENA
COUNTY OF LOS ANGELES
CITY OF LAWNDALE
CITY OF REDONDO BEACH
CITY OF LOS ANGELES
CITY OF PALOS VERDES ESTATES
CITY OF ROLLING HILLS ESTATES
CITY OF LOMITA
PACIFIC OCEAN
Torrance County Beach
REDONDO BEACH BLVD
ARTESIA BLVD
CRENSHAW BLVD
HAWTHORNE BLVD
TORRANCE BLVD
SEPULVEDA BLVD
PACIFIC COAST HWY
CARSON ST
LOMITA BLVD
TORRANCE MUNICIPAL AIRPORT
CALLE MAYOR
Santa Fe Railroad
Del Amo Fashion Center
Plaza Del Amo
Rolling Hills Road
Crest Road
Loftview Dr
Calle De Arboles
Paseo de Arena
Camino Del Campo
Sharynne Lane
Towers St
Narrot St
Halison St
Spencer St
Maricopa St
Emerald St
Garnet St
California St
Harpers Way
Dominguez Way
Sierra St
Fashion Way
Sonoma St
Lenore St
Laurette St
Gethann St
Mindora Dr
Newton St
Mesa St
Kashiwa St
Walnut St
NORTH
0 0.5 1 Miles
0 1 2 Kilometers
TORRANCE GENERAL PLAN

Table N-3
Torrance Noise/Land Use Compatibility Guidelines

Property Receiving Noise		Maximum Noise Level Ldn or CNEL, dB(A)	
Type of Use	Land Use Designations	Interior	Exterior
Residential[3]	Low Density Residential Low Medium Density Residential Medium Density Residential	45	60/65[1]
	Medium High Density Residential	45	65 / 70[2]
	High Density Residential	45	70[1]
Commercial and Office	General Commercial Commercial Center	--	70
	Residential Office	50	70
Industrial	Business Park Light Industrial Heavy Industrial	55	75
Public and Medical Uses	Public/Quasi-Public/Open Space	50	65
	Hospital/Medical	50	70
Airport	Airport	--	70

1. The normally acceptable standard is 60 db(A). The higher standard is acceptable subject to inclusion of noise-reduction features in project design and construction.
2. Maximum exterior noise levels up to 70 dB CNEL are allowed for Multiple-Family Housing.
3. Regarding aircraft-related noise, the maximum acceptable exposure for new residential development is 60 dB(A) CNEL.

These compatibility criteria serve as guidelines. For example, an acoustical analysis must be prepared when noise-sensitive land uses are proposed within noise impact areas. The analysis must show that the project is designed to attenuate noise to meet the City's noise standards in order to receive approval. If the project design does not meet the noise standards, mitigation can be recommended in the analysis. If the analysis demonstrates that the noise standards can be met by implementing the mitigation measures, the project can be approved conditioned upon implementation of the mitigation measures.

4. NOISE ABATEMENT

Recognizing the need to protect residents from noise, the City has adopted specific regulations for noise produced by transportation sources, trains, and aircraft. These regulations offer protection to residents and users of facilities like schools and libraries, where noise can have particularly disruptive impacts, while also balancing the need of industry and commuters to make a reasonable amount of noise associated with commerce and industry during a workday.

4.1 NOISE ABATEMENT PROGRAMS

4.1.1 AIRPORT NOISE ABATEMENT PROGRAM

The City's Noise Abatement Program, which is enforced by the Environmental Division of the Community Development Department, provides for on-going monitoring of aircraft noise. City ordinances do not allow aircraft landing on or taking off from the airport to exceed a Single Event Noise Exposure Level (SENEL) of 88 dB(A) or a maximum sound level of 82 dB(A), measured at ground level outside the extended airport boundaries. The program imposes even more restrictive noise limits for night flights.

Established in 1977, the noise abatement program has dramatically decreased noise complaints related to airport operation. The airport program relies on noise monitors in areas of the community under aircraft flight paths. If an aircraft exceeds specified noise limits, pilots are notified by the City. The City also aims to be proactive in stemming aircraft noise complaints by working with pilots to test noise levels and find ways to safely get planes in and out of the airport without exceeding the established noise limits. This type of aircraft noise mitigation is possible for most aircraft using the airport. Since the inception of the noise abatement program, the variety of aircraft using the airport has become noticeably quieter, and the number of noise violations per operations has decreased over the years to well below one percent. The majority of noise violations are made by transient aircraft.

Since its inception almost 20 years ago, the program has become one of the most effective programs in the country, and has been used as a model by other cities and airports. The program significantly decreased aircraft noise violations from between 4.5 to 5 percent of operations in 1976 to less than one percent by 1987.[2] Noise violations have been reduced to less than 0.2 percent of total airport operations. Through this program, the City has successfully balanced the airport's needs with the community's requirements for a livable environment.

[2] "History of Noise Abatement Program" memo, presented to the Airport Commission on April 9, 1987

4.1.2 MUNICIPAL CODE NOISE AND LAND USE COMPATIBILITY REGULATIONS

Quality of life is tied to living in an environment where we can carry out daily activities without the interference and harmful effects from excessive noise. The Municipal Code has noise guidelines that stress the importance of protecting indoor and outdoor noise environments. Protecting sensitive receptors and residential neighborhoods is particularly important, and the City has established maximum acceptable noise levels within noise zones.

Municipal Code, Division 4: Public Health and Welfare (Chapter 6 - Noise Regulation) establishes noise level limits in most residential areas of 50 to 55 db(A) between 7:00 A.M. to 10:00 P.M., and 45-50 db(A) between 10:00 P.M. to 7:00 A.M., depending on location. The regulations establish regions with differing noise regulations, as indicated on Figure N-5.

- Region 1 includes the predominantly industrial areas in and around the refineries and industrial uses on the western edge of the City.
- Region 2 includes the area in and around the airport and includes the commercial and industrial uses south of Lomita Boulevard and north of Pacific Coast Highway.
- Region 3 encompasses the residential neighborhoods south of Pacific Coast Highway and west of Hawthorne Boulevard.
- Region 4 includes the remainder of the City.

Acceptable noise levels are lower for neighborhoods in Region 3. Noise levels in most of the City's industrial and commercial areas cannot exceed 60 dB(A) during the day or 55 dB(A) during the night. The ordinance offers flexibility in the areas surrounding the oil refineries (Region 1), where noise levels cannot exceed 70 dB(A) during the day or 65 dB(A) at night.

Understanding that certain types of noise are more harmful and annoying, the City's noise regulations penalize certain types of noise sources by lowering the permitted decibels allowed. In other cases such as those where noise is not continuous and occurs only during a very limited timeframe or duration, decibel limits can be higher.

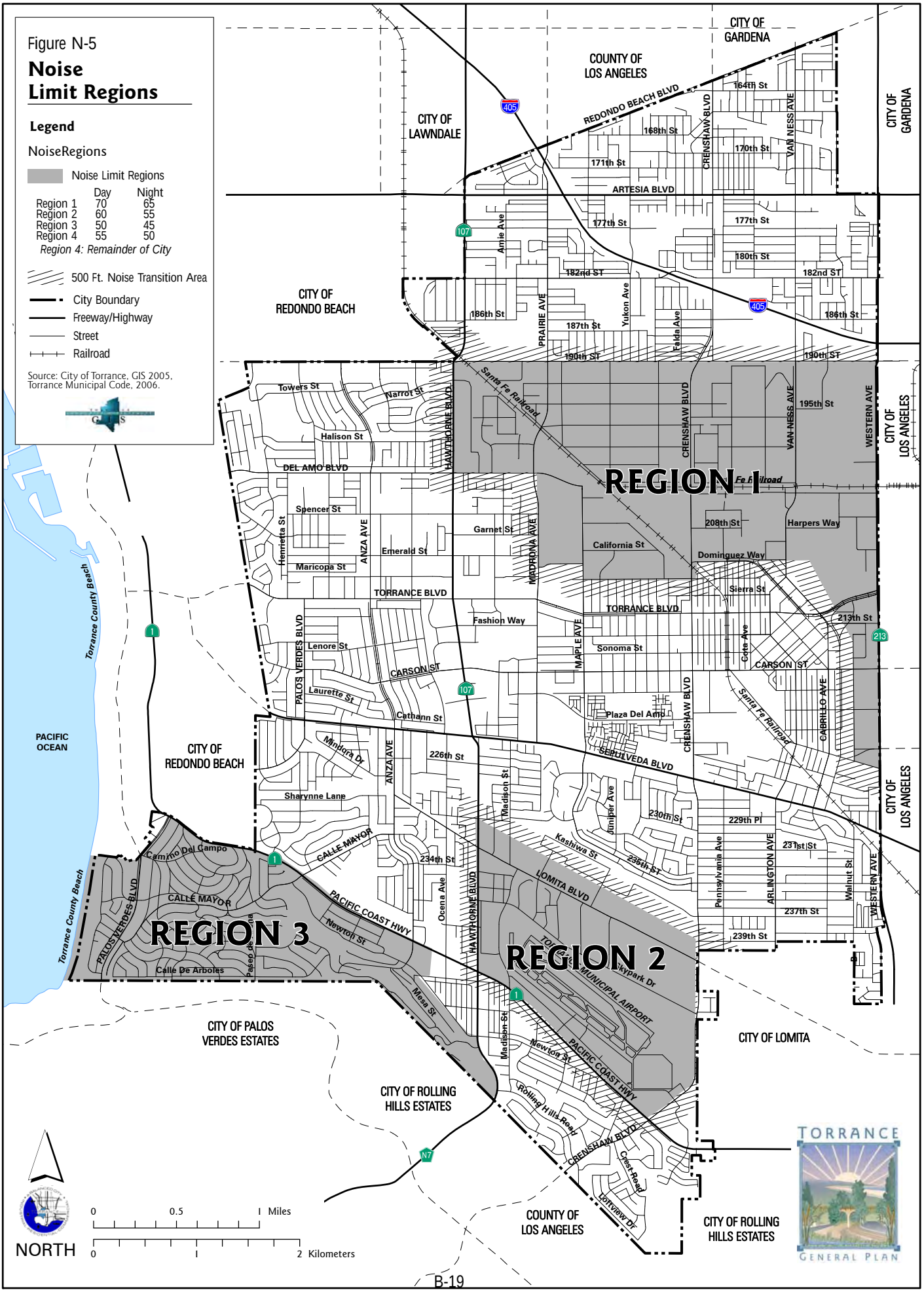


Figure N-5
Noise Limit Regions
Legend
NoiseRegions
Noise Limit Regions
Day Night
Region 1 70 65
Region 2 60 55
Region 3 50 45
Region 4 55 50
Region 4: Remainder of City
500 Ft. Noise Transition Area
City Boundary
Freeway/Highway
Street
Railroad
Source: City of Torrance, GIS 2005, Torrance Municipal Code, 2006.
REGION 1
REGION 2
REGION 3
CITY OF GARDENA
COUNTY OF LOS ANGELES
CITY OF LAWNDALE
CITY OF REDONDO BEACH
CITY OF LOS ANGELES
PACIFIC OCEAN
CITY OF PALOS VERDES ESTATES
CITY OF ROLLING HILLS ESTATES
CITY OF LOMITA
COUNTY OF LOS ANGELES
REDONDO BEACH BLVD
ARTESIA BLVD
DEL AMO BLVD
TORRANCE BLVD
CARSON ST
PACIFIC COAST HWY
SEPULVEDA BLVD
LOMITA BLVD
CRENSHAW BLVD
HAWTHORNE BLVD
PALOS VERDES BLVD
ANZA AVE
MAPLE AVE
VAN NESS AVE
WESTERN AVE
ARLINGTON AVE
Santa Fe Railroad
Torrance County Beach
Municipal Airport
0 0.5 1 Miles
0 1 2 Kilometers
NORTH
TORRANCE GENERAL PLAN

Table N-4
Noise Conditions Correction to the Limits, (in Decibels)

1	Noise contains a steady, audible tone, such as a whine, screech or hum	-5
2	Noise is a repetitive impulsive noise, such as hammering or riveting	-5
3	If the noise is not continuous, one of the following corrections to the limits shall be applied:	
a	Noise occurs less than 5 hours per day or less than 1 hour per night	+5
b	Noise occurs less than 90 minutes per day or less than 20 minutes per night	+10
c	Noise occurs less than 30 minutes per day or less than 6 minutes per night	+15
4	Noise occurs on Sunday morning (between 12:01 A.M. and 12:01 P.M. Sunday)	-5

City of Torrance Municipal Code

For construction work, the ordinance limits the use of power construction tools or equipment for construction work adjacent to residential areas. With regard to railroad noise, the ordinance places restrictions on night-time operations and the decibel level of train whistles.

4.1.3 MOTOR VEHICLE NOISE

As Figure N-4 indicates, noise from vehicles traveling along Torrance's roadways will continue to represent the primary noise source in the community. The City has very limited ability to abate vehicle-related noise at a local level. The State of California establishes noise limits for vehicles, and at the local level, the City can cite any driver on City streets whose vehicle exceeds the limits. This applies to engine and exhaust system noise, as well as any noise from inside the vehicle that can be heard (or felt) beyond the vehicle.

With regard to freeway noise, as discussed above, Caltrans is responsible for noise abatement. The City's best defense against exposing any additional residents or noise-sensitive uses to I-405 noise is to apply the noise/land use compatibility criteria set forth in Table N-3 in the review of development applications.

4.2 NOISE GOALS AND POLICIES

The City's goals and policies regarding noise aim to minimize adverse noise impacts and to preserve the high quality of life for City residents. Torrance will maintain a peaceful environment by identifying noise impacts and mitigating noise problems through acoustical treatments and appropriate land use policies.

Transportation routes represent the predominant noise source in Torrance. Sounds emitted from automobiles, aircraft, and rail can be mitigated through sound barriers, and with regard to Torrance Municipal Airport and rail activities, strict enforcement of Municipal Code provisions that pertain to noise abatement.

OBJECTIVE N.1:	To identify noise pollution and establish effective noise abatement methods
Policy N.1.1:	Continue to strictly enforce the provisions of the City's Noise Ordinance to ensure that stationary noise, traffic-related noise, railroad noise, airport-related noise, and noise emanating from construction activities and special events are minimized.
Policy N.1.2:	Maintain a workable, reasonable, and effective noise ordinance. Update the ordinance as necessary to respond to community noise issues.
Policy N.1.3:	Seek grants and loans for noise abatement projects.
Policy N.1.4:	Minimize unnecessary outdoor noise through enforcement of the noise ordinance and through permit processes that regulate noise-producing activities.

OBJECTIVE N.2:	To minimize transportation-related noise impacts
Policy N.2.1:	Enforce all local noise regulations pertaining to motor vehicle operations.
Policy N.2.2:	Prioritize locations for implementing noise reduction, such as residential areas near major roads or areas near railroads.
Policy N.2.3:	Require developers and business owners to minimize noise impacts associated with on-site motor vehicle activity through the use of noise-reduction features (e.g., berms, walls, well-designed site plans).
Policy N.2.4:	Ensure that all new development within the identified noise contours of Torrance Municipal Airport will be compatible with existing and projected airport noise levels.
Policy N.2.5:	Minimize airport operations-related noise violations by maintaining the City's Noise Abatement Program.

OBJECTIVE N.3:	To minimize noise incompatibilities between land uses
Policy N.3.1:	Review industrial, commercial, or other noise-generating land use proposals for compatibility with nearby noise-sensitive land uses, and require that appropriate mitigation be provided.
Policy N.3.2:	Require the inclusion of noise-reducing design features for developments near noise-sensitive land uses.

Policy N.3.3:	Encourage dense, attractive landscape planting along roadways and adjacent to other noise sources to increase absorption of noise.
Policy N.3.4:	Work with property and business owners to avoid or resolve noise incompatibilities in commercial or industrial areas.

OBJECTIVE N.4:	To research and implement new means of noise abatement
Policy N.4.1:	Encourage and support efforts by the State of California to abate noise pollution by using stricter quantitative noise standards, shorter compliance time governing operation of all types of motor vehicles, etc.
Policy N.4.2:	Maintain open lines of communication between the City and all federal, State, and County agencies involved in noise abatement.
Policy N.4.3:	Educate residents and businesses of the effects of noise pollution, ways they can assist in noise abatement, and noise abatement programs within the City.
Policy N.4.4:	Support legislation at all levels of government that enhances local authority over noise sources.

City of Torrance Municipal Code (regarding Noise)

CHAPTER 6
NOISE REGULATION

ARTICLE 1 - GENERAL PROVISIONS

(Added by O-2170; Amended by O-2211)

46.1.1 DECLARATION OF POLICY.

It is hereby declared to be the policy of the City to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power. At certain levels noises are detrimental to the health and welfare of the citizenry and in the public interests shall be systematically proscribed.

46.1.2 DEFINITIONS.

(Amended by O-2466)

As used in this Chapter, unless the context otherwise clearly indicates, the words and phrases used in this Chapter are defined as follows:

a) Ambient noise is the all encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far, without inclusion of intruding noises from isolated identifiable sources.

b) Decibel (db) shall mean a unit of level which denotes the ratio between two (2) quantities which are proportional to power; the number of decibels corresponding to the ratio to two (2) amounts of power is ten (10) times the logarithm to the base ten (10) of this ratio.

c) Emergency work shall mean work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger.

d) Noise level, in decibels, is the A-weighted sound pressure level as measured using the slow dynamic characteristic for sound level meters specified in ASA S1.4-1961, American Standard Specification for General Purpose Sound Level Meters, or latest revision thereof. The reference pressure is twenty (20) micronewtons/square meter (2 x 10-4 microbar).

e) Person shall mean a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

f) Sound level meter shall mean an instrument including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement of noise and sound levels in a specified manner as specified in ASA S1.4-1961, American Standard Specification for General Purpose Sound Level Meters, or latest revision thereof.

g) Sound pressure level, in decibels (db) of a sound is twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of this sound to the reference pressure. For the purpose of this Chapter the reference pressure shall be twenty (20) micronewtons/square meter (2 x 10-4 microbar).

h) Impulsive sound means a short duration sound (such as might be produced by the impact of a drophammer or pile driver) with one (1) second or less duration.

i) Motor vehicles shall include, but not be limited to, minibikes and go carts.

j) Sound amplifying equipment shall mean any machine or device for the amplification of the human voice, music, or any other sound. Sound amplifying equipment shall not include standard automobile radios when used and heard only by the occupants of the vehicle in which the automobile radio is installed. Sound amplifying equipment, as used in this Chapter, shall not include warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

k) Sound truck shall mean any motor vehicle, or any other vehicle regardless of motive power, whether in motion or stationary, having mounted thereon, or attached thereto, any sound amplifying equipment.

l) Commercial purpose shall mean and include the use, operation or maintenance of any sound amplifying equipment for the purpose of advertising any business or any goods or any services, or for the purpose of attracting the attention of the public to, or advertising for, or soliciting patronage or customers to or for any performance, show, entertainment, exhibition, or event, or for the purpose of demonstrating any such sound equipment.

m) Noncommercial purpose shall mean the use, operation or maintenance of any sound equipment for other than a commercial purpose. Noncommercial purposes shall mean and include, but shall not be limited to, philanthropic, political, patriotic and charitable purposes.

n) Residential land shall mean that land which is utilized for residential purposes or zoned for residential purposes.

o) Residential purpose means any purpose involving routine and relatively permanent use of a building as a dwelling, as opposed to relatively transient uses such as hotels and motels.

p) Day means the time period from 7:00 A.M. to 10:00 P.M.

q) Night means the time period from 10:00 P.M. to 7:00 A.M.

46.1.3 MEASUREMENTS.

Noise levels shall be measured with a sound level meter satisfying the requirements of ASA S1.4-1961, American Standard Specification for General Purpose Sound Level Meters, or latest revision thereof. Noise level of steady or slowly varying sounds shall be measured using the slow dynamic characteristic of the sound level meter and by reading the central tendency of the needle. Noise level of impulse sounds shall be measured using the fast dynamic characteristic of the sound level meter and by reading the maximum indication of the needle.

ARTICLE 2 - SPECIAL NOISE SOURCES

46.2.1 RADIOS, TELEVISION SETS AND SIMILAR DEVICES.

a) Use Restricted. It shall be unlawful for any person within the City of Torrance to use or operate any radio receiving set, musical instrument, phonograph, television set, or other machine or device for the producing or reproducing of sound at any time in such a manner as to produce noise levels on residential land which would disturb the peace, quiet and comfort of neighboring residents or any reasonable person of normal sensitiveness residing in the area.

b) Prima Facie Violation. Any noise exceeding the ambient noise level at the property line of any residential land (or if a condominium or apartment house, within any adjoining apartment) by more than five (5) decibels shall be deemed to be prima facie evidence of a violation of the provisions of this Section.

46.2.2 HAWKERS AND PEDDLERS.

It shall be unlawful for any person within the City to sell anything by outcry within any area of the City utilized for residential purposes. The provisions of this Section shall not be construed to prohibit the selling by outcry of merchandise, food and beverages at licensed sporting events, parades, fairs, circuses and other similar licensed public entertainment events.

46.2.3 DRUMS.

It shall be unlawful for any person to use any drum or other instrument or device of any kind for the purpose of attracting attention by the creation of noise within the City. This Section shall not apply to any person who is a participant in a school band or duly licensed parade or who has been otherwise duly authorized by the City to engage in such conduct.

46.2.4 SCHOOLS, HOSPITALS AND CHURCHES.

It shall be unlawful for any person to create any noise on any street, sidewalk or public place adjacent to any school, institution of learning or church while the same is in use or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets, sidewalks or public place indicating the presence of a school, church or hospital.

46.2.5 ANIMALS AND FOWL.

No person shall keep or maintain, or permit the keeping of upon any premises owned, occupied or controlled by such person, any animal or fowl otherwise permitted to be kept which, by any sound, cry or behavior shall cause annoyance or discomfort to a reasonable person of normal sensitiveness on any residential land.

46.2.6 MACHINERY, EQUIPMENT, FANS AND AIR CONDITIONING.

It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the

noise level at the property line of any residential land to exceed the ambient noise level by more than five (5) decibels.

46.2.7 OIL PRODUCTION EQUIPMENT.

(Added by O-2528)

It shall be unlawful for any person to operate, or cause to be operated any oil production equipment in any manner so as to create any noise which would cause the noise level at the nearest property line of any residential land to exceed the ambient noise level by more than five (5) decibels; provided, however, that the aforesaid provisions of this Section shall not apply to oil production equipment being used in the drilling, redrilling, deepening, repair, maintenance or abandonment of an oil well.

ARTICLE 3 - CONSTRUCTION

46.3.1 CONSTRUCTION OF BUILDINGS AND PROJECTS.

(Amended by O-3712)

a) It shall be unlawful for any person within the City of Torrance to operate power construction tools, equipment, or engage in the performance of any outside construction or repair work on buildings, structures, or projects in or adjacent to a residential area involving the creation of noise beyond 50 decibels (db) as measured at property lines, except between the hours of 7:30 A.M. to 6:00 P.M. Monday through Friday and 9:00 A.M. to 5:00 P.M. on Saturdays. Construction shall be prohibited on Sundays and Holidays observed by City Hall. An exception exists between the hours of 10:00 A.M. to 4:00 P.M. for homeowners that reside at the property.

b) The Community Development Director may allow expanded hours and days of construction if unusual circumstances and conditions exist. Such requests must be made in writing and must receive approval by the Director prior to any expansion of the hour and day restrictions listed above.

c) Every construction project requiring Planning Commission review or considered to be a significant remodel as defined by Section 231.1.2, shall be required to post an information board along the front property line that displays the property owner's name and contact number, contractor's name and contact number, a copy of TMC Section 46.3.1, a list of any special conditions, and the Code Enforcement phone number where violations can be reported.

d) Properties zoned as commercial, industrial or within an established redevelopment District, are exempted from the above day and hour restrictions if a minimum buffer of 300 feet is maintained from the subject property's property line to the closest residential property. The Community Development Director, may, however, revoke such exemption for a particular project if the noise level exceeds 50 decibels (db) at the property line of a residential property beyond the 300 linear foot buffer.

e) Heavy construction equipment such as pile drivers, mechanical shovels, derricks, hoists, pneumatic hammers, compressors or similar devices shall not be operated at any time, within or adjacent to a

residential area, without first obtaining from the Community Development Director permission to do so. Such request for permission shall include a list and type of equipment to be used, the requested hours and locations of its use, and the applicant shall be required to show that the selection of equipment and construction techniques has been based on minimization of noise within the limitations of such equipment as is commercially available or combinations of such equipment and auxiliary sound barriers. Such permission to operate heavy construction equipment will be revoked if operation of such equipment is not in accordance to approval. No permission shall be required to perform emergency work as defined in Article 1 of this Chapter.

46.3.2 OPERATION OF OIL EQUIPMENT.

(Added by O-2528)

a) It shall be unlawful for any person to operate machinery or power tools for the repair, maintenance or abandonment of oil well equipment on Sundays and legal holidays and, except between the hours of 7:00 A.M. and 8:00 P.M., on any other day; provided, however, that the provisions of this subsection shall not apply to any well, the surface of which is three hundred (300) or more feet from any dwelling.

b) It shall be unlawful for any person to conduct oil drilling or redrilling operations other than circulation of mud, on Sundays and legal holidays and, except between the hours of 7:00 A.M. and 9:00 P.M., on any other day; provided, however, that the provisions of this subsection shall not apply to any well the surface of which is three hundred (300) or more feet from any dwelling.

c) It shall be unlawful for any person to operate machinery or power tools for the repair, maintenance or abandonment of oil well equipment or to conduct oil well drilling or redrilling operations at any time within three hundred (300) feet of any dwelling without first obtaining from the Director of Building and Safety permission to do so. Such request for permission shall include a list and type of equipment to be used, the requested hours and locations of its use. The Director of Building and Safety shall issue such permit only if the applicant demonstrates to the reasonable satisfaction of the Director that the selection of equipment and construction techniques has been based on minimization of noise within the limitations of such equipment as is commercially available or combinations of such equipment and auxiliary sound barriers or acoustical sound blankets as provided in Section 46.3.3. Such permission to operate oil well equipment shall be revoked if such equipment is not operated and construction is not accomplished in accordance with the conditions of approval. No permission shall be required to perform emergency work as defined in Article 1 of this Chapter. The person performing such emergency work shall first notify the occupants of adjacent residences and the Torrance Police Department as to the nature and extent of the work to be performed.

46.3.3 ACOUSTICAL BLANKETS.

(Added by O-2528)

Acoustical blankets shall be made of fibrous glass insulation 1-1/2 inches thick, 0.50 pounds per cubic foot density, 0.63 pounds per square foot weight, .00010 to .00015 fibre diameter (inches) with phenolic

binder having a temperature limit of 450 degrees F. sewed between layers of fire retardant vinyl fibre glass cloth, 15-17 ounces per square yard sewed with dacron thread D-92 with stitches not more than six (6) to the inch. The lacing cord shall be flat vinyl coated tape composed of fibrous glass yard braided, heat set and bonded. The tape shall have a 90 pound tensile strength. Grommets shall be No. 4 brass. Provided, however, that there may be substituted for the aforesaid specifications an acoustical blanket which in the opinion of the Director of Building and Safety is equal to sound-proofing ability and fire resistive qualities to the aforesaid specifications.

ARTICLE 4 - VEHICLES

46.4.1 VEHICLE REPAIRS.

It shall be unlawful for any person within the City of Torrance to repair, rebuild or test any motor vehicle at any time in such a manner that a reasonable person of normal sensitiveness located on residential land is caused discomfort or annoyance by reason of the noise produced therefrom.

46.4.2 MOTOR DRIVEN VEHICLES.

It shall be unlawful for any person to operate any motor driven vehicle within the City in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance; provided, however, that any such vehicle which is operated upon any public highway, street or right-of-way shall be excluded from the provisions of this Section, provided the provisions of the California Motor Vehicle Code, Sections 23130, 27150 and 27151 are complied with.

ARTICLE 5 - AMPLIFIED SOUND

(Amended by O-3360)

46.5.1 PURPOSE.

The Council enacts the provisions of this Article for the sole purpose of securing and promoting the public health, comfort, safety, and welfare for its citizenry. While recognizing that the use of sound amplifying equipment is protected by the constitutional rights of freedom of speech and assembly, the Council nevertheless feels obligated to reasonably regulate the use of sound amplifying equipment in order to protect the correlative constitutional rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise.

46.5.2 APPLICATION REQUIRED.

It shall be unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate within the City a loudspeaker or sound amplifying equipment in a fixed or movable position or mounted upon any sound truck for the purposes of giving instructions, directions, talks, addresses, lectures or transmitting music to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place or public property without first filing an application and obtaining a permit therefor as set forth in Division 3 of this Code.

46.5.3 REGULATIONS.

The commercial and noncommercial use of sound amplifying equipment shall be subject to the following regulations:

a) The only sounds permitted shall be either music or human speech, or both.

b) The operation of sound amplifying equipment shall only occur between the hours of 9:00 A.M. and 9:00 P.M. each day except on Sundays and legal holidays. The operation of sound amplifying equipment for noncommercial purposes on Sundays and legal holidays shall only occur between the hours of 10:00 A.M. and 6:00 P.M.

c) No sound emanating from sound amplifying equipment shall exceed fifteen (15) dBA above the ambient as measured at any property line.

d) Notwithstanding the provisions of subsection c) of this Section, sound amplifying equipment shall not be operated within two hundred (200) feet of churches, schools or hospitals.

e) In any event, the volume of sound shall be so controlled that it will not be unreasonably loud, raucous, jarring, disturbing or a nuisance to reasonable persons of normal sensitiveness within the area of audibility.

ARTICLE 6 - TRAIN HORNS AND WHISTLES

46.6.1 EXCESSIVE SOUND PROHIBITED.

It shall be unlawful for any person to operate or sound or cause to be operated or sounded, between the hours of 10:00 P.M. of one day and 7:00 A.M. of the next day, a train horn or train whistle which creates noise in excess of ninety (90) db at any place or point three hundred (300) feet or more distant from along a line normal to the direction of travel of the source of such sound.

ARTICLE 7 - GENERAL NOISE REGULATIONS

46.7.1 GENERAL NOISE REGULATIONS.

Notwithstanding any other provision of this Chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

46.7.2 NOISE LIMITS.

To provide for methodical enforcement and to give reasonable notice of the performance standards to be met, the foregoing intent is expressed in the following numerical standards. For purposes of this Chapter, the City is divided into regions as set forth in Exhibit A.

a) Noise Limits on Residential Land. It shall be unlawful for any person within the City of Torrance (wherever located) to produce noise in excess of the following levels as received on residential land owned or occupied by another person within the designated regions. In addition to the noise limits stated herein, the noise limits set forth in Sec. 46.7.2.b) shall also be complied with.

1) For noise receivers located on residential land, for measurement positions five hundred (500) feet or more distant from the boundaries of Regions 1 and 2, the following limits apply:

REGION (in which noise receiver is located)	**NOISE LEVEL, db**	
	Day	**Night**
3	50	45
4	55	50

2) For noise receivers located on residential land, for positions within five hundred (500) feet from the boundary of Region 1 or 2, the following limits apply:

Five (5) dB above the limits set forth in Section 46.7.2.a) 1 above, or 5 dB above the ambient noise level, whichever is the lower number.

b) Noise Limits at Industrial and Commercial Boundaries:

1) Noise Sources in Region 1: It shall be unlawful for any person in Region 1 to produce noise levels at the boundary of Region 1 in excess of 70 dB during the day or 65 dB during the night.

2) Noise Sources in Region 2: It shall be unlawful for any person in Region 2 to produce noise levels at the boundary of Region 2 in excess of 60 dB during the day or 55 dB during the night.

3) Noise Sources in All Remaining Industrial Use Land: It shall be unlawful for any person on industrial use land outside Region 1 and 2 to produce noise levels at his own property boundary in excess of 60 dB during the day or 55 dB during the night.

4) Noise Sources on All Land Use for Commercial Purposes: It shall be unlawful for any person on land used for commercial purposes to produce noise levels at his own property boundary in excess of 60 dB during the day or 55 dB during the night.

In addition to the noise limits set forth herein (Sec. 46.7.2.b), the noise limits set forth in Sec. 46.7.2.(a) shall also be complied with.

c) Corrections to the Noise Limits: The numerical limits given in Sec. 46.7.2.(a) and (b) shall be adjusted by addition of the following corrections where appropriate.

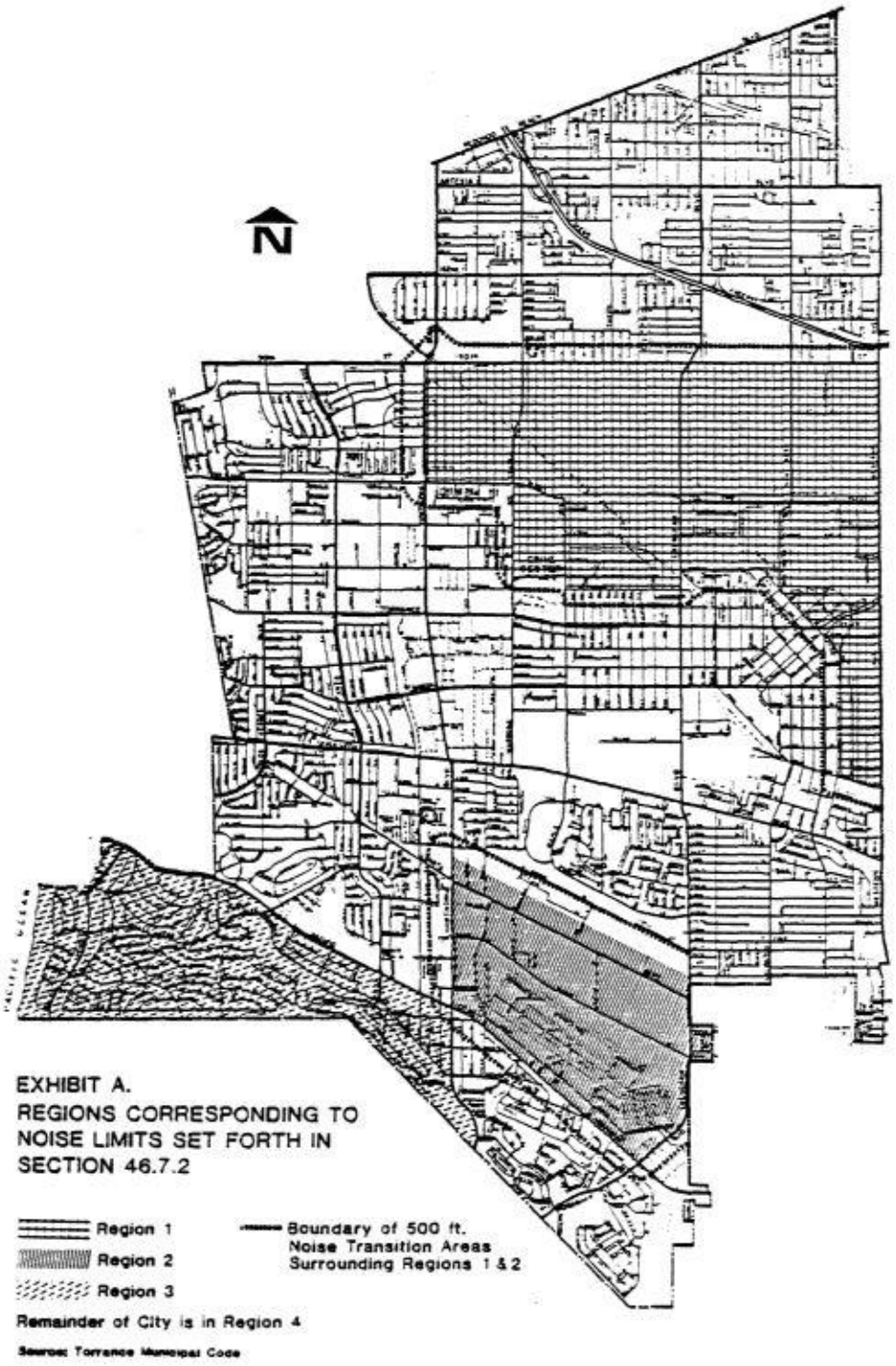
Noise Conditions	Correction to the Limits, decibels
1. Noise contains a steady, audible tone, such as a whine, screech or hum	-5
2. Noise is a repetitive impulsive noise, such as hammering or riveting	-5
3. If the noise is not continuous, one of the following corrections to the limits shall be applied:	
a) Noise occurs less than 5 hours per day or less than 1 hour per night	+5
b) Noise occurs less than 90 minutes per day or less than 20 minutes per night	+10
c) Noise occurs less than 30 minutes per day or less than 6 minutes per night	+15
4. Noise occurs on Sunday morning (between 12:01 A.M. and 12:01 P.M. Sunday)	-5

46.7.3 EXCEPTIONS.

The following noise sources are specifically excluded from the provisions of this Chapter:

1) Aircraft in flight.

2) Motor vehicles operating in accordance with Sec. 46.4.2. and in accordance with all the sections of the California Motor Vehicles Code.



ARTICLE 8 - AIRPORT NOISE LIMITS

(Added by O-2784)

46.8.1 VIOLATIONS UNLAWFUL.

It shall be unlawful for any person to pilot or operate or permit to be piloted or operated an aircraft in violation of the provisions of Sections 46.8.8., 46.8.9. or 46.8.14.

46.8.2 EXTENDED AIRPORT BOUNDARIES DEFINED.

For the purposes of this Article, the term extended airport boundaries shall mean the area enclosed by Lomita Boulevard on the north, Crenshaw Boulevard on the east, Pacific Coast Highway on the south and Hawthorne Boulevard on the west.

46.8.3 TAKE-OFF DEFINED.

(Amended by O-3270)

For the purposes of this Article, take-off shall mean the flight of an aircraft departing Torrance Airport from the time it commences on its departure on the runway.

46.8.4 LANDING DEFINED.

(Amended by O-3270)

For the purposes of this Article, landing shall mean the flight of an aircraft from the time it begins its landing approach until it is taxied from the runway.

46.8.5 SOUND EXPOSURE LEVEL.

For the purposes of this Article, the sound exposure level is the level of sound accumulated during a given event, with reference to a duration of one second. More specifically, sound exposure level, in decibels, is the level of the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on the reference pressure of 20 micronewtons per square meter and reference duration of one second.

46.8.6 SENEL.

For the purposes of this Article, the single event noise exposure level (SENEL), in decibels, is the sound exposure level of a single event, such as an aircraft fly-by, measured over the time interval between the initial and final times for which the sound level of a single event exceeds the threshold sound level. For implementation of the provisions of this Article, the threshold noise level shall be at least 20 decibels below the numerical value of the single event noise exposure level limits specified in Sections 46.8.8. or 46.8.9. as the case may be.

46.8.7 MAXIMUM SOUND LEVEL DEFINED.

For the purposes of this Article, the maximum sound level, in decibels, is the highest sound level reached at any instant of time during the time interval used in measuring the sound exposure level of a single event.

46.8.8 AIRCRAFT NOISE LIMIT.

Except as provided in Section 46.8.10., no aircraft taking off from or landing on the Torrance Municipal Airport may exceed a single event noise exposure level (SENEL) of 88 dBA or a maximum sound level of 82 dBA measured at ground level outside the extended Airport boundaries.

46.8.9 AIRCRAFT NOISE LIMIT AT NIGHT.

(Amended by O-3284)

Notwithstanding the provisions of Section 46.8.8., except as provided in Section 46.8.10., no aircraft taking off from or landing on the Torrance Municipal Airport between the hours of 10:00 P.M. of any day and 7:00 A.M. of the following morning on any Monday through Friday inclusive, nor between the hours of 10:00 P.M. each night and 8:00 A.M. of the following morning on any Saturday or Sunday inclusive, nor on any of the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day; provided, however, that if any such holiday falls on a Saturday or Sunday, the observance of which is then moved to the preceding Friday, or the following Monday, then such Friday or Monday shall be considered to be a holiday for purposes of this section, may exceed a single event noise exposure level (SENEL) of 82 dBA or a maximum sound level of 76 dBA measured at ground level outside the extended Airport boundaries.

46.8.10 AIRCRAFT NOISE EXEMPTION.

(Amended by O-3382)

The following categories of aircraft shall be exempt from the provisions of Sections 46.8.8. and 46.8.9.:

1) Aircraft operated by the United States of America or the State of California;

2) Law enforcement, emergency, fire or rescue aircraft operated by any county or city of said state;

3) Aircraft used for emergency purposes during an emergency that has been officially proclaimed by competent authority pursuant to the laws of the United States, said State or the City;

4) Civil Air Patrol aircraft when engaged in actual search and rescue missions;

5) Aircraft engaged in landings or takeoffs while conducting tests under the direction of the Airport Manager in an attempt to rebut the presumption of aircraft noise violation pursuant to the provisions of Section 46.8.13

6) Aircraft while participating in a City-sponsored event approved by City Council.

46.8.11 CULPABILITY OF INSTRUCTOR PILOT.

In the case of any training flight in which both an instructor pilot and a student pilot are in the aircraft which is flown in violation of any of the provisions of this Article, the instructor pilot shall be rebuttably presumed to have caused such violation.

46.8.12 CULPABILITY OF AIRCRAFT OWNER OR LESSEE.

For purposes of this Article, the beneficial owner of an aircraft shall be presumed to be the pilot of the aircraft with authority to control the aircraft's operations, except that where the aircraft is leased, the lessee shall be presumed to be the pilot. Such presumption may be rebutted only if the owner or lessee identifies the person who in fact was the pilot at the time of the asserted violation.

46.8.13 DENIAL OF USE OF AIRPORT.

(See Section 51.7.2. et seq. concerning denial of the use of the Airport for repeated violations of this Article.)

46.8.14 PRESUMPTION OF AIRCRAFT NOISE VIOLATION.

In the event that the Airport Manager determines to his reasonable satisfaction that available published noise measurements for a particular type or class of aircraft indicate that it cannot meet the noise levels set forth in Sections 46.8.8. and 46.8.9., it shall be presumed that operation of such aircraft will result in violation of the provisions of Sections 46.8.8. and 46.8.9. and such aircraft will not be permitted to land on, tie down on, be based at or take off from the Torrance Municipal Airport, except in emergencies as set forth in Section 51.4.2.; provided, however, that the owner or operator of such aircraft shall be entitled to rebut such presumption to the reasonable satisfaction of the Airport Manager by furnishing evidence to the contrary.

46.8.15 DESIGNATED ENFORCEMENT OFFICIAL.

The Director of Building and Safety, the Administrator of Environmental Quality, the Environmental Quality Officers and such other City employees as are designated by the Director of Building and Safety with the approval of the City Manager, all acting under the direction and control of the City Manager, shall have the duty and authority to enforce the provisions of this Article, pursuant to the provisions of Section 836.5 of the State Penal Code.

Construction Noise and Vibration Calculations

Construction Generated Vibration

Vibration Annoyance Criteria

Receptor:	Average Vibration Level - nearest off-site receptors	Average Distance (feet):	75

Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB
Vibratory Roller	94	84
Caisson Drill	87	77
Large bulldozer	87	77
Small bulldozer	58	48
Jackhammer	79	69
Loaded trucks	86	76
	Criteria	78

Receptor:	Average Vibration Level - nearest classrooms	Average Distance (feet):	110

Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate Velocity Level, VdB
Vibratory Roller	94	81
Caisson Drill	87	74
Large bulldozer	87	74
Small bulldozer	58	45
Jackhammer	79	66
Loaded trucks	86	73
	Criteria	78

Construction Generated Vibration
Structural Damage Criteria

Receptor:	Maximum Vibration Levels - nearest off-site receptors	Closest Distance (feet):	75
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Vibratory Roller	0.210	0.040	
Caisson Drill	0.089	0.017	
Large bulldozer	0.089	0.017	
Small bulldozer	0.003	0.001	
Jackhammer	0.035	0.007	
Loaded trucks	0.076	0.015	
	Criteria	0.200	

Receptor:	Maximum Vibration Levels - nearest classrooms	Closest Distance (feet):	110
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Vibratory Roller	0.210	0.023	
Caisson Drill	0.089	0.010	
Large bulldozer	0.089	0.010	
Small bulldozer	0.003	0.000	
Jackhammer	0.035	0.004	
Loaded trucks	0.076	0.008	
	Criteria	0.200	

Noise Levels During Construction

Reference Levels: Construction Noise at 50 Feet (dBA Leq)[1]

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	50		50	
Fine Grading & Rough Grading		85		85
Utility Trenching		80		84
Building Construction		79		81
Architectural Coating				
Finishing/Landscaping		80		84

Drop Off
hard=0;
soft=0.5
0

Construction Noise at homes on 171st St

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	120		75	
Fine Grading & Rough Grading		77		81
Utility Trenching		72		80
Building Construction		72		77
Architectural Coating				
Finishing/Landscaping		72		80

Construction Noise at nearest classrooms

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	160		110	
Fine Grading & Rough Grading		75		78
Utility Trenching		70		77
Building Construction		69		74
Architectural Coating				
Finishing/Landscaping		70		77

Construction Noise at homes on Spinning Ave

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	470		430	
Fine Grading & Rough Grading		65		66
Utility Trenching		61		65
Building Construction		60		62
Architectural Coating				
Finishing/Landscaping		61		65

Construction Noise at apartments on Artesia Blvd

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	340		290	
Fine Grading & Rough Grading		68		70
Utility Trenching		63		69
Building Construction		63		65
Architectural Coating				
Finishing/Landscaping		63		69

Construction Noise at homes on Casimir Ave

Construction Phase	Distance: Receptor to center of activity	Average Level (dBA Leq)[2]	Distance: Receptor to border of site	Maximum Level (dBA Lmax)[3]
Site Preparation	640		600	
Fine Grading & Rough Grading		63		63
Utility Trenching		58		62
Building Construction		57		59
Architectural Coating				
Finishing/Landscaping		58		62

[1] Calculations based on the Roadway Construction Noise Model with the construction information provided by the applicant.
[2] Average daily noise level including all equipment in use simultaneously considering utilization factors.
[3] Maximum instanteneous noise level from the loudest equipment used during the construction phase.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/08/2015
Case Description: Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Tractor	No	40	84.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment		Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader		85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	85.0	84.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/08/2015
Case Description: Utility Trenching

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)									
Day			Evening			Night			
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Day			Evening			Night			
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Building Construction.txt
Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/08/2015
Case Description: Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Welder / Torch	No	40		74.0	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)						Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Crane			80.6	72.6		N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Generator			80.6	77.6		N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Welder / Torch			74.0	70.0		N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Total			80.6	79.3		N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A					

FinishingLandscaping.txt
Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/08/2015
Case Description: Finishing/Landscaping

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	60.0	60.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A