NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

To: Interested Agencies and Individuals
From: Los Angeles County Office of Education, Division of Facilities & Construction
9300 Imperial Highway, Downey, CA 90242-4720

Los Angeles County Recorder/
County Clerk
12400 Imperial Highway
Norwalk, CA 90650

Contact: Jema Estrella, Director of Facilities & Construction
(562) 922-8981
Estrella_Jema@lacoe.edu

Applicant: Los Angeles County Office of Education.

Project Title: Initial Study/Mitigated Negative Declaration Proposed 4.265 MW Solar Panel Carport & Rooftop Project.

Project Description: The proposed project consists of the construction and operation of approximately 294,593 square feet of solar panel covered carport and rooftop within the existing LACOE facility boundaries. The project is to be constructed in two phases: Phase I will be constructed at the Education Center West (ECW) facility located at 12830 Columbia Way; and Phase II will be constructed at the Education Center (EC) and Personnel Commission Annex (PCA) facility located at 9300 Imperial Highway.

Project Location: 12830 Columbia Way/9300 Imperial Highway, Downey, California.

Public Review Period: April 4th through May 5, 2014

Hearing Dates/Times: May 6th, 2014, at 3:00 PM in Room EC-107

Hearing Location: 9300 Imperial Highway, Downey, CA 90242

The Mitigated Negative Declaration and Initial Study, as well as all referenced documents, will be available for public review at:

Los Angeles County Office of Education
9300 Imperial Highway,
Downey, CA 90242-4720
http://www.lacoe.edu/

Please submit any comments or inquiries regarding the Initial Study/Mitigated Negative Declaration by May 5th, 2014. Please direct your comments to Jema Estrella, Director of Facilities & Construction at the above address, email, or phone.
Initial Study/Mitigated Negative Declaration
Proposed 4.265 MW Solar Panel Carport & Rooftop Project

12830 Columbia Way & 9300 Imperial Highway
Downey, California

Converse Project No. 13-42-195-01
March 4, 2014

Prepared For:
Los Angeles County Office of Education
Education Center West
12830 Columbia Way, Room 125
Downey, California 90242-4720

Prepared By:
Converse Consultants
222 East Huntington Drive
Suite 211
Monrovia, California 91016
March 4, 2014

Ms. Jema Estrella  
Director, Facilities & Construction  
Los Angeles County Office of Education  
Education Center West  
12830 Columbia Way, Room 125  
Downey, California  90242-4720

Subject: Initial Study/Mitigated Negative Declaration  
Proposed 4.265 MW Solar Panel Carport & Rooftop Project  
12830 Columbia Way & 9300 Imperial Highway  
Downey, California  
Converse Project No. 13-42-195-01

Ms. Estrella:

Converse Consultants (Converse) is pleased to submit the attached Initial Study/Mitigated Negative Declaration report for the proposed solar panel project.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact either Laura Tanaka at (626) 930-1261 or Norman Eke at (626) 930-1260.

Sincerely,

CONVERSE CONSULTANTS

Dennis Crable  
Project Manager

Laura Tanaka  
Principal Environmental Scientist

Norman S. Eke  
Managing Officer
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APPENDIX A – Focused Air Quality Analysis

APPENDIX B – Focused Noise Analysis
Environmental Checklist

1. **Project Title:** Solar Panel Carport and Rooftop Project

2. **Lead Agency Name and Address:** Los Angeles County Department of Education (LACOE), 12830 Columbia Way Downey, CA 90242

3. **Contact Person and Phone Number:** Ms. Jema Estrella, Director Facilities and Construction, (562) 922-8981

4. **Project Location:** Parking lots of LACOE Facilities at 12830 Columbia Way and 9300 Imperial Highway, Downey, CA 90242.

5. **Project Sponsor's Name and Address:** LACOE, 12830 Columbia Way, Downey, CA 90255.

6. **General Plan Designation:** CM (Commercial Manufacturing).¹

7. **Zoning:** M-1 Manufacturing (12830 Columbia Way); M-2 Manufacturing (9300 Imperial Highway).²

8. **Description of Project:** The proposed project consists of the construction and operation of approximately 294,593 square feet of solar panel covered carport and rooftop (see Figures 1 and 2) within the existing LACOE facility boundaries. The project is to be constructed in two phases: Phase I will be constructed at the Education Center West (ECW) facility located at 12830 Columbia Way; and Phase II will be constructed at the Education Center (EC) and Personnel Commission Annex (PCA) facility located at 9300 Imperial Highway.

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ECW (12830 Columbia Way) is a 19.84-acre site improved with an approximate 900,000-square-foot, one-story commercial building surrounded by an asphalt-paved parking area. An approximate 204,723 square foot solar panel covered carport is planned for construction and operation at this site.

EC and PCA (9300 Imperial Highway) is an 8.64-acre-site improved with two buildings totaling approximately 125,200 square feet surrounded by an asphalt-paved parking area. An approximate 89,870 square foot solar panel covered carport and rooftop are planned for construction and operation at this site.

Construction – LACOE proposes to construct fixed solar PV panels mounted on carport structures at the EC building, and then connect this new infrastructure to an inverter/frequency converter on site within the boundary of the site facility. The construction of the proposed project would follow the following sequence and time frames, and would require 18 full-time equivalent (FTE) construction workers. The project would be completed in approximately 3.5 months:

- Ground preparation (3 weeks) – 5 FTE construction workers
- Underground electrical (3 weeks) – 4 FTE construction workers
- Inverter/frequency converter installation (3 weeks) – 4 FTE construction workers
- Post drilling (16 days) – 5 FTE construction workers
- Posts (3 weeks) – 6 FTE construction workers
- Carport erection (4 weeks) – 6 FTE construction workers
- Panel installation (4 weeks) – 6 FTE construction workers
- Final electrical (4 weeks) – 8 FTE construction workers

Construction would involve bringing in equipment by truck to assemble on site, and assembling other parts of the carport solar structures off site, then bringing them to the ECW parking staging areas. The construction staging areas would be located within the LACOE facility boundaries, would be fenced, and would provide areas for construction worker parking.

Installing posts into the paved surface parking areas would be accomplished with a post drill, and would not require grading. A directional drill rig would be used to drill conduit runs.

The proposed project would be constructed in two phases:

- Phase I – ECW facility solar panel covered carport construction planned to begin in mid-2014.
- Phase II – EC and PCA solar panel installation dates are not yet determined.

Operation – The proposed project would require only routine maintenance and panel cleaning several times a year. The project would provide clean, renewable energy at a
net savings of LACOE’s energy costs of $97,630 in the first year of operation, and a cumulative net savings of $14,626,000 in the 30th year of operation.

9. **Surrounding Land Uses and Setting:**
   - North – Mixed Use: Retail/Commercial/Hospital/Medical
   - East – Commercial Manufacturing, and Low Density Residential
   - South – Low Density Residential and 105 Century Freeway
   - West – General Commercial, Medium Density Residential, and Low Density Residential

10. **Other Public Agencies Whose Approval is Required:**
    - City of Downey
    - Southern California Edison
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 ☐ Agriculture and Forestry 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
Determination

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 ___________________________ Date ___________________________

Signature ___________________________ Date ___________________________

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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 will 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 (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

      b) Impacts Adequately Addressed. Identify which effects from the 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.

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

8) This is only a suggested form, and 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 significance.
Environmental Issues

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<th>Less Than Significant with Mitigation Incorporated</th>
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<tbody>
<tr>
<td><strong>I. AESTHETICS:</strong> Would the project:</td>
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<td>a) Have a substantial adverse effect on a scenic vista?</td>
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<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
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<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
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<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
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**II. 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 Dept. 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:
III. AIR QUALITY: 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:

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

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

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

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IV. BIOLOGICAL RESOURCES:
Would the project:

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### V. CULTURAL RESOURCES: Would the project:

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### VI. GEOLOGY AND SOILS: Would the project:

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<td>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?</td>
<td>☐</td>
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<td>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?</td>
<td>☐</td>
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**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

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

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?  
☐ [ ] ☐ [ ] ☒ [ ] ☐ [ ]

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

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

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?  
☐ [ ] ☐ [ ] ☒ [ ] ☐ [ ]

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  
☐ [ ] ☐ [ ] ☒ [ ] ☐ [ ]

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?  
☐ [ ] ☐ [ ] ☒ [ ] ☐ [ ]
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<tr>
<td>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?</td>
<td>☒</td>
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<td>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?</td>
<td>☒</td>
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<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☒</td>
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<td>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?</td>
<td>☒</td>
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<td>IX. HYDROLOGY AND WATER QUALITY: Would the project:</td>
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<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>☒</td>
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<tr>
<td>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)?</td>
<td>☒</td>
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<td>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?</td>
<td>☒</td>
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</tr>
<tr>
<td>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?</td>
<td>[ ]</td>
<td>Less Than Significant Impact</td>
<td>[x]</td>
<td>No Impact</td>
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<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
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<td>Less Than Significant Impact</td>
<td>[x]</td>
<td>No Impact</td>
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<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>[ ]</td>
<td>Less Than Significant Impact</td>
<td>[x]</td>
<td>No Impact</td>
</tr>
<tr>
<td>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?</td>
<td>[ ]</td>
<td>No Impact</td>
<td>[x]</td>
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</tr>
<tr>
<td>h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</td>
<td>[ ]</td>
<td>No Impact</td>
<td>[x]</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td>[ ]</td>
<td>No Impact</td>
<td>[x]</td>
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<tr>
<td>j) Inundation by seiche, tsunami, or mudflow?</td>
<td>[ ]</td>
<td>No Impact</td>
<td>[x]</td>
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**X. LAND USE AND PLANNING:** Would the project:

| a) Physically divide an established community? | [ ] | Less Than Significant Impact | [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? | [ ] | Less Than Significant Impact | [x] |
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**XI. MINERAL RESOURCES:** Would the project:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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?

**XII. NOISE:** Would the project result in:

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<th>Impact</th>
<th>Potential Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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</table>

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?

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

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

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

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?

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?
XIII. POPULATION AND HOUSING:
Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

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

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

XIV. PUBLIC SERVICES:

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

   Fire protection?
   Police protection?
   Schools?
   Parks?
   Other public facilities?

XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
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?

XVI. TRANSPORTATION/TRAFFIC:

Would the project:

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?

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?

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?

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

e) Result in inadequate emergency access?

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?

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<th>Potentially Significant Impact</th>
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XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

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

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

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?

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

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

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

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

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:

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 of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>☐</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
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<tr>
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</tbody>
</table>
Impact Discussion

Aesthetics

Would the project:

a) Have a substantial adverse effect on a scenic vista?
b) Substantially degrade the existing visual character or quality of the site and its surroundings?
c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact (a-c): The proposed project is located in area zoned for commercial, retail, residential, and manufacturing uses. The project is not located in an area with a scenic vista, or an area within or near designated scenic resources. Therefore, it is not likely that the proposed project would significantly impair the existing visual quality of the site and surroundings.

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 (d): The proposed project does not include any new lighting. Although some daytime glare from the sun would be experienced from the panel metal framework, the solar panels themselves are designed to absorb light, not reflect it. In addition, the panels would be located within the LACOE facility and generally shielded from adjacent residents by block walls. Furthermore, the panels would have a 5 degree tilt to the west, which would further reduce potential impacts from daytime glare to less than significant.

Agriculture and Forestry Resources

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
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

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Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

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

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 (a-e): The proposed project is located within an area zoned for and occupied with commercial, manufacturing, retail, and residential uses. No agricultural or forestry resources are located on or in the vicinity of the proposed project.

Air Quality

Would the project:

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

Less Than Significant Impact (a): CEQA requires that projects be consistent with the South California Air Quality Management District’s (SCAQMD) Air Quality Management Plan (AQMP). A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the AQMP in the following ways: (1) it fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed; and (2) it provides the local agency with ongoing information assuring local decision-makers that they are making real contributions to clean air goals contained in the AQMP. Only new or amended general plan elements, specific plans, and regionally significant projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are, therefore, considered consistent with the air quality management plan.

The LACOE Solar project would place solar panel-covered carports in the existing parking areas and on the EC building (see Figures 1 and 2). No grading or major construction tasks are proposed and the Applicant shall use the existing parking areas and EC building to house the solar panels. The manpower, equipment use, and timing used in the construction are as provided by the Applicant and are reasonable to the project at hand. Once operational, the project would not draw additional traffic nor produce pollutant emissions. Occasional maintenance of the panels would be required, but this would be very limited attracting only a few vehicle trips per year. Any emissions generated by these maintenance vehicles would be more than compensated from emissions savings due to the use of the solar panels over the fossil fuels that would be required to produce this electricity. Projected air emissions were calculated using the California Emissions Estimator Model (CalEEMod Version 2013.2.2) distributed by the South Coast Air Quality Management District (SCAQMD). The CalEEMod model uses EMFAC2011 emissions factors for vehicle traffic and the OFFROAD2011 emissions
factors for construction equipment and the analysis assumes all construction equipment is used for 8 hours per day (Appendix A – LACOE Solar Project Focused Air Quality Analysis).  

The emissions analysis indicates that the proposed project does not result in significant construction emissions, and when operational, the project would be expected to reduce stationary source emissions associated with electrical power generation. Additionally, the project would not result in significant localized air quality impacts. As such, the project is consistent with the goals of 2012 AQMP and, in that respect, does not present a significant air quality impact.

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

Less Than Significant Impact (b): Construction Impacts – Air quality impacts may occur during construction activities required to implement the proposed changes. The site is already paved with asphalt and no grading is necessary. The Applicant estimates that construction would take 14 weeks to complete. The effort is reported to require 18 workers on a daily basis. The equipment is estimated to include a backhoe to break-up and remove the asphalt, as necessary, a drill rig for setting posts, a crane to lift the pieces into place, and eight aerial lifts. Additionally, 12 vendor trips per day are estimated for the delivery of materials. Finally, the Applicant estimates that as many as six trucks could be used at the site, and the model assumes these as “haul trips.” For the purposes of this analysis, construction is estimated to begin in July 2014 and take 14 weeks, or 70 working days, and all equipment would be used on a daily basis for 8 hours per day over this time.

Table 1 includes the daily emissions projected for site construction. Note that all values are within their respective thresholds and the impact is less than significant.

<table>
<thead>
<tr>
<th>Source</th>
<th>ROG</th>
<th>NOX</th>
<th>CO</th>
<th>SO₂</th>
<th>PM₁₀ Dust</th>
<th>PM₁₀ Exhaust</th>
<th>PM₁₀ Total</th>
<th>PM₂,₅ Dust</th>
<th>PM₂,₅ Exhaust</th>
<th>PM₂,₅ Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Road Diesel</td>
<td>4.30</td>
<td>42.15</td>
<td>26.20</td>
<td>0.04</td>
<td>0.00</td>
<td>2.45</td>
<td>2.45</td>
<td>0.00</td>
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<td>2.30</td>
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<td>Hauling</td>
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<td>0.09</td>
<td>0.06</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Vendor Trips</td>
<td>0.54</td>
<td>2.79</td>
<td>3.50</td>
<td>0.01</td>
<td>0.15</td>
<td>0.05</td>
<td>0.20</td>
<td>0.04</td>
<td>0.05</td>
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</tr>
<tr>
<td>Worker Trips</td>
<td>1.05</td>
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<td>0.00</td>
<td>0.41</td>
<td>0.11</td>
<td>0.00</td>
<td>0.11</td>
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Table 1 – Comparison of Projected Construction Emissions and Daily Criteria Values (pounds/day)

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Table 1
COMPARISON OF PROJECTED CONSTRUCTION EMISSIONS AND DAILY CRITERIA VALUES (pounds/day)

<table>
<thead>
<tr>
<th>Totals</th>
<th>5.90</th>
<th>45.30</th>
<th>32.80</th>
<th>40.06</th>
<th>0.55</th>
<th>2.50</th>
<th>3.07</th>
<th>0.15</th>
<th>2.35</th>
<th>2.50</th>
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<tr>
<td>Daily Threshold</td>
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<td></td>
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<tr>
<td>Exceeds Threshold?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>→</td>
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<td>→</td>
<td>No</td>
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Notes:
The CalEEMod model projects summer and winter emissions and the higher of the two values was included in the table.

Operation Impacts – As noted, once operational, the solar panels would only require occasional maintenance drawing only a few vehicle trips per year. Additionally, the panels would reduce the consumption of fossil fuels associated with the production of electricity resulting in a net emissions reduction. No significant impacts are associated with their use.

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)?

Less Than Significant Impact (c): In accordance with SCAQMD methodology, projects that do not exceed or can be mitigated to less than the daily threshold values do not add significantly to a cumulative impact. Criteria pollutants are all within the recommended SCAQMD threshold levels for both construction and operation and this impact is less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact (d): **Short-Term Localized Impacts** – In addition to the mass daily threshold standards discussed above, project construction has the potential to raise localized ambient pollutant concentrations. This could present a significant impact if these concentrations were to exceed the ambient air quality standards included in Table 1 of Appendix A5 at receptor locations.

The SCAQMD has developed screening tables for the construction of projects up to five acres in size. These tables are included in the SCAQMD’s **Final Localized Significance**

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5 Ibid. Table 1 Ambient Air Quality Standards for Criteria Pollutants.
Threshold Methodology (June 2003) and are periodically updated on the SCAQMD Internet web site. The most current update was in 2008 and these data are use in the analysis. The emissions values included in the screening tables are based on the emissions produced at the site and do not include mobile source emissions (i.e., trucks and worker vehicles) spread over a much larger area.

Screening level allowable emissions are calculated from the “mass-rate look-up tables” included in the Final Localized Significance Threshold Methodology (Appendix C). Rather than using the entirety of the site, the CalEEMod emissions model bases the area of disturbance on equipment use. Dozers, graders, and crawler tractors are estimated to disturb an area of 0.5 acre while scrapers are estimated to disturb 1.0 acre over an 8-hour work day. None of these pieces of equipment would be used in the construction of the project. In accordance with the screening tables, construction emissions for a 1 acre site in Source Receptor Area (SRA) 5, where the project is located, would not create significant localized impacts, even at the closest receptor locations (25 meters), so long as the daily emissions levels do not exceed 80, 571, 4, and 3 pounds per day for NOx, CO, PM_{10}, and PM_{2.5}, respectively. These values are only to include the equipment that actually operates at the site and note the worker, vendor, or haul trips that are distributed over a much greater area. These on-site emissions are projected at 42.15, 26.20, 2.45, and 2.30 pounds per day, respectively.

The project is divided into two areas to include 204,723 square feet of panels (4.7 acres), and 89,870 square feet of panels (2.1 acres). Construction could occur anywhere within either area on a daily basis. As each of these areas is larger than 1 acre, and the projected construction emissions would not exceed the screening level threshold values for a 1-acre parcel, no significant localized impacts would be projected for the construction of the project.

Long-Term Localized Impacts – Long-term effects of the proposed project could also be significant if they exceed the CAAQS. As noted for construction, these criteria only apply to CO, NO_{2}, PM_{10}, and PM_{2.5}. CO and NO_{2} would be significant if the project were to raise existing levels above those values included in the CAAQS. Again, because the Basin is a non-attainment area for particulate matter, the operational thresholds for both PM_{10} and PM_{2.5} are set at a measurable increase of 2.5 micrograms per cubic meter (µg/m^{3}).

Unlike construction equipment that generates exhaust and dust in a set area, the primary source of emissions from project operations is due to the addition of vehicles on the roadway system. These emissions are then spread over a vast area and do not result in localized concentrations in proximity to the project site. As such, localized modeling for the project operations is not prepared for residential, limited commercial, or light industrial development that does not include a truck terminal.

Because CO is the criteria pollutant that is produced in greatest quantities from vehicle
combustion and does not readily disperse into the atmosphere, long-term adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. In the past, areas of vehicle congestion had the potential to create “pockets” of CO called “hot spots.” However, the SCAB has now been designated as an Attainment area of both the State and federal CO standards, and no hot spots have been reported in the project area in more than the last 5 years. CO is no longer a localized pollutant of concern near roadways and, as such, this analysis is no longer necessary. Furthermore, other than the occasional trip for maintenance, the project would not add local traffic nor add measurably to local CO levels in the project area and any impact would be less than significant.

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

**Less Than Significant Impact (e):** Project construction would involve some use of heavy equipment creating exhaust pollutants. With regards to nuisance odors, any air quality impacts will be confined to the immediate vicinity of the equipment itself. By the time such emissions reach any sensitive receptor sites away from the project site, they will be diluted to well below any level of air quality concern. An occasional “whiff” of diesel exhaust from passing equipment and trucks accessing the site from public roadways may result. Such brief exhaust odors are an adverse but less-than-significant air quality impact.

Once operational, no odors are associated with the use of the use of the solar panels or the carport structures.

**Mitigation Measures:**

Although impacts to air quality during construction of the proposed project would be less than significant, the following mitigation measures are provided to further assist project environmental compliance.

Mitigation Measure AQ-1:

- Contractors shall maintain equipment and vehicle engines in good condition and in proper tune per manufactures' specifications.
- Contractor shall configure construction parking to minimize traffic interference.
- Contractors shall provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.
- All diesel-powered construction equipment in use shall require control equipment that meets, at a minimum, Tier III emissions requirements. In the event Tier III equipment is not available, diesel-powered construction equipment in use shall require emissions control equipment with a minimum of Tier II diesel standards.
• During project construction, the developer shall require all contractors to turn off all construction equipment and delivery vehicles when not in use or prohibit idling in excess of 5 minutes.

• Onsite stockpiles of debris or dirt shall be covered or watered at least two times per day.

**Biological Resources**

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

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?

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?

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

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 (a-f):** The proposed project is located within an area zoned for and occupied with commercial, manufacturing, residential, retail, and medical uses; no biological resources are located on or in the vicinity of the proposed project.

**Cultural Resources**

Would the Project:

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

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

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
d) Disturb any human remains, including those interred outside of formal cemeteries?

**Less Than Significant Impact (a-d):** The project site is an existing paved parking lot and the proposed project would not involve any major ground disturbance activities such as grading. Approximately 0.5 acres of disturbance would occur with trenching and drilling for solar panel covered carports installation. Also, the area has already been substantially disturbed due to the development of the existing parking lot and appurtenant buildings. Due to previous disturbance at the site and in the vicinity during development of LACOE structures and parking lots, the likelihood of encountering unknown cultural, paleontological, or geological resources or human remains is low. In addition, the LACOE facilities are not located adjacent to historical structures. Consequently, the project would not affect any cultural or historical resources. Therefore, the project would have a less than significant impact on cultural resources.

**Geology and Soils**

**Would the project:**

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.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

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

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

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?

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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?

Less Than Significant Impact (a-e): The proposed project site is not within an area delineated within an Alquist-Priolo Earthquake Fault Zoning map. In addition, the project site is an existing paved parking lot and building, and construction of the proposed project would not involve any major ground disturbance activities. Furthermore, construction of the solar-panel covered carports and rooftop would be done in accordance with all applicable City building codes, ordinances, and regulations. Consequently, the proposed project would not have a significant impact on geology and soils, and would pose no more risk to people or structures than other permitted facilities adjacent to and in the vicinity of the site.

Greenhouse Gas Emissions

Would the project:

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

Less Than Significant Impact (a): To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD has convened a GHG CEQA Significance Threshold Working Group for the process of establishing a threshold for GHG emissions to determine a project’s regional contribution toward global climate change impacts for California. On September 28, 2010 the SCAQMD put forth a threshold of 3,000 metric tons (MTons) of CO$_2$e per year for residential, commercial, and mixed use projects and 10,000 Mtons CO$_2$e for industrial projects under CEQA. The SCAQMD also suggests that a threshold of 3,500 Mtons may be appropriate for residential development if commercial is limited to 1,400 Mtons and mixed-use is limited to 3,000 Mtons so long as these values are used consistently.

Construction – The Applicant estimates that construction would take about 14 weeks. For the purposes of this analysis, construction is estimated to begin in July 2014 and run for 70 working days (i.e., 14 weeks x 5 working days per week). Construction activities would consume fuel and result in the generation of greenhouse gases. Annual construction CO$_2$e emissions are as projected using the CalEEMod computer model and included below in Table 2. Note that these emissions are within the threshold value and the impact is less than significant. It should also be noted, that these emissions are based on 70 days of active construction over the year. If it is assumed that there are 260 days of active construction in a year, the yearly total would be 661.07 Mtons of CO$_2$e.

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CO$_2$e on an annual basis (i.e., 177.98 Mtons / 70 days x 260 days). Even this value would not exceed the threshold and from this standpoint, any extension of a construction schedule would not create significant greenhouse gas emissions so long as the same equipment is employed.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Mtons/year)</td>
</tr>
<tr>
<td>Year</td>
<td>CO$_2$</td>
</tr>
<tr>
<td>Off-Road Diesel</td>
<td>145.10</td>
</tr>
<tr>
<td>Hauling</td>
<td>0.56</td>
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<tr>
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</tr>
<tr>
<td>Workers</td>
<td>14.37</td>
</tr>
<tr>
<td>Totals</td>
<td>177.12</td>
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<tr>
<td>Threshold</td>
<td>---</td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>---</td>
</tr>
</tbody>
</table>

$^1$ Because different gases have different conversion factors, totals may not equal.

**Site Operations** – In the case of site operations, the majority of greenhouse gas emissions, and specifically CO$_2$, is typically due to vehicle travel, energy consumption, and water use. However, the project would generate only a few vehicle trips per year for maintenance. Additionally, the project produces energy reducing dependence on polluting fossil fuels. Finally, the provision for the carports shade the cars beneath and potentially reduce the need for use of the vehicles’ air conditioning units at start-up reducing the load on the engine and attendant emissions. Any impact is less than significant.

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

**Less Than Significant Impact (b): Less than Significant Impact.** An impact can also be potentially significant if the project does not comply with the applicable plans necessary for the reduction of greenhouse gases. Like air quality impacts, projects that generate de minimus levels (i.e., less than 3,000 Mtons per year) and don’t result in a significant impact or can be mitigated to less than significant would be deemed to be in compliance of the local policies with respect to GHG.

**Construction** – As demonstrated above, construction is estimated to generate about 177.98 Mtons of CO$_2$e. This value is below the 3,000-Mton threshold value and the cumulative impact to climate change is less than significant. As such, construction
would not conflict with existing plans and policies.

Site Operations – The project does not generate regular vehicle trips and reduces the dependence on fossil fuels to provide electricity to the power grid representing a long-term benefit.

Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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?
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
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?
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?
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?
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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 (a-h): The proposed project will not use, store, or generate hazardous materials. Therefore, the proposed project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; and will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.
The proposed project is not included on a list of hazardous sites compiled pursuant to Government Code Section 65962.5.\(^8\)

The proposed project is not located within an airport land use plan, nor in the vicinity of a public or private airstrip. The Compton/Woodley airport, located along Alondra Boulevard between Central Avenue and Wilmington Avenue, approximately 5.7 miles to the southwest, is the nearest public airport. Also, Long Beach Municipal Airport is located about 6 miles to the south of the proposed project site.

The closest private use air facility is the Southeast Superior Court heliport, located approximately 3 miles to the east of the proposed project site.

The proposed project would be constructed and operated in accordance with existing local and state fire code, ordinances, and regulations\(^9\) and will not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The proposed project is not located in or near an area where wildland fires could occur.

**Hydrology and Water Quality**

**Would the project:**

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

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)?

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?

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?

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

f) Otherwise substantially degrade water quality?

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\(^8\) California Department of Toxic Substance Control. Envirostор Site/Facility Search. 2014: http://www.envirostor.dtsc.ca.gov/public/

Less Than Significant Impact (a-f): The proposed project would construct and operate solar panel panels on carports and one rooftop within the boundaries of existing commercial/manufacturing facilities. Operation of the proposed project would use minimal water resources (cleaning the panels twice a year), and would have little effect on groundwater supplies. Construction of the project would not involve site grading, and consequently would not have a significant impact on existing drainage patterns on or off site. In addition, construction and operation of the proposed project would comply with all applicable state, local, and federal regulations relating to hydrology and water quality, including compliance with applicable Standard Urban Storm Water Mitigation Plans.10

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

  j) Inundation by seiche, tsunami, or mudflow?

No Impact (g-j): The proposed project does not involve housing, nor would be constructed in an area that would impede or redirect flood flows, or expose people or structures to flooding, including flooding as a result of a failed levee or dam. In addition, the City of Downey is relatively flat and is not located near a dam, lake, or ocean, and therefore, inundation by seiche, tsunami, or mudflow is not anticipated.11 Moreover, tsunamis and seiches do not pose hazards to the proposed project due to the inland location of the site and lack of nearby bodies of standing water.

Land Use and Planning

Would the project:

  a) Physically divide an established community?

No Impact (a): The proposed solar panel project would be constructed and operated within the boundaries of existing, enclosed LACOE facilities, and would have no impact on the physical integrity of an established community.

11 Ibid.
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 (b):** The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

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

**No Impact (c):** The proposed project is not located in or near an area governed by any applicable habitat conservation plan or natural community conservation plan.

**Mineral Resources**

**Would the project:**

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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 (a):** Construction and operation of the solar-panel covered carports present no components that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, nor 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.

**Noise**

The generation of noise associated with the proposed project would occur over the short-term for site construction activities. Once operational, the project would not generate additional traffic, except for occasional maintenance trips, and would not increase the noise levels along site access routes. Additionally, the solar collection system operates without any audible sound to the surrounding area. Both short-term and long-term noise impacts associated with the project are examined in this analysis.  

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The Noise Element is included as Chapter 6 of the General Plan, Downey Vision 2025 and provides noise-related, land use compatibility guidelines. The goals of the Noise Element are to:

- Protect persons from exposure to excessive noise,
- Protect persons from exposure to excessive noise generated by various modes of transportation, and
- Minimize noise impacts on noise-sensitive land uses.

Acceptable levels of noise presented in the Noise Element are included below in Table 3.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Interior</th>
<th>Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>45 dBA and below</td>
<td>60 dBA and below</td>
</tr>
<tr>
<td>Schools, parks, and other non-residential, noise-sensitive land uses</td>
<td>45 dBA and below</td>
<td>60 dBA and below</td>
</tr>
<tr>
<td>Commercial</td>
<td>65</td>
<td>-</td>
</tr>
<tr>
<td>Industrial</td>
<td>70</td>
<td>-</td>
</tr>
</tbody>
</table>

All noise levels are CNEL

Interior noise levels based on windows closed.

Exterior areas for residential limited to rear yards of single family uses, and patios/balconies and common recreational areas of multiple family uses. Exterior areas for schools limited to playground areas, picnic areas, and other areas of frequent human use.

The goals of the General Plan Noise Element are administered through the City Municipal Code. Noise is addressed in the Municipal Code under Article 4, Public Welfare, Morals, and Policy, Chapter 6, Unnecessary Noises, Section 4600, Noises. Section 4606.3, Maximum Permissible Noise Levels by Sound Sources Across Property Boundaries, carries the following limitations:

(a) All activities to which this chapter is applicable shall be conducted in such a manner that any noise produced shall not create a disturbance. The maximum permissible sound pressure level measured at the property boundary of any land use in Subsection (b) of this section from any noise source not operating on a

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public right-of-way shall constitute prima facie evidence of a public nuisance when such noise level exceeds five (5) db(A) above the ambient noise level at any period during the course of a twenty-four (24) hour day.

(b) If the alleged noise source is of a continuous nature and cannot reasonably be discontinued for a time period wherein the ambient noise level can be determined, the maximum permissible steady noise level by sound sources across the property boundary of any land use cited below may be less, but not greater than:

(c) If any parcel of real property is developed and used for multiple land uses, the lower land use noise level standard shall apply.

(d) In the hours between 7:00 a.m. to 10:00 p.m., the noise levels permitted in Subsection (b) of this section may be adjusted by the inclusion of the following factors when applicable:
   (1) Noise source operated 12 minutes per hour or less + 5 db(A)
   (2) Noise source operated 3 minutes per hour or less + 10 db(A)
   (3) Noise source operated 1 minute per hour or less + 15 db(A)

(e) Impulsive sounds, pure tone, or sounds with a cyclically varying amplitude shall be considered a public nuisance when such noises are at a sound pressure level of five (5) db(A) less than those listed in Subsection (b) of this section, with the inclusion of the corrective factors listed in Subsection (d) of this section, when applicable. (Added by Ord. 508, adopted 6-22-76; amended by Ord. 551, adopted 7-25-78)

The City recognizes that construction is a necessity and difficult to control so sets provisions specific to its performance when in proximity to noise sensitive areas. Section 4600.2. Noises: Equipment and Machinery, includes these requirements:

(a) No person shall use, operate, or permit to be used or operated within any R-1, R-2, or R-3 Zone, as defined in Chapter 1 of Article IX of this code, any power tool, machine, or equipment, or any other tool, machine, or equipment, between the hours of 10:00 p.m. and 7:00 a.m. in such a manner that the noise therefrom disturbs or interferes with the peace, comfort, or welfare of the neighboring inhabitants.

(b) No person shall use, operate, or permit to be used or operated within any commercial (C) or manufacturing (M) Zone, as defined in Chapter 1 of Article IX of this code, which is within three hundred (300’) feet of a residential use, any power tool, machine, or equipment, or any other tool, machine, or equipment, between the hours of 10:00 p.m. and 7:00 a.m. in such a manner that the noise therefrom disturbs or interferes with the peace, comfort, or welfare of the neighboring residential inhabitants. (Added by Ord. 323, adopted 12-12-66; renumbered by Ord. 393, adopted 4-12-71; amended by Ord. 508, adopted 6-22-76; amended by Ord. 08-1225, adopted 2-12-08)
Section 4606.5, *Construction Projects*, notes:

Construction, repair or remodeling equipment and devices and other related construction noise sources shall be exempted from the provisions of this chapter provided a valid permit for such construction, repair, or remodeling shall have been obtained from the City. In any circumstance other than emergency work, no repair or remodeling shall take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day, and no repair or remodeling shall exceed eighty-five (85) db(A) across any property boundary at any time during the course of a twenty-four (24) hour day. (Added by Ord. 508, adopted 6-22-76)

**Existing Noise Environment – Field Measurements:** The project site is located within the existing parking lots of the LACOE facilities located at 12830 Columbia Way and at 9300 Imperial Highway within the City of Downey. Generally, the facilities are located east of Clark Avenue, north of the I-105 Freeway, and south of Imperial Highway. The parcels are currently paved with asphalt.

The project includes the construction and operation of solar panel-covered carports and rooftop (Education Center Building). The project is to be placed in the LACOE parking lots and EC building rooftop that are not noise sensitive in nature. The nearest residential neighborhood units located to the west are immediately along Columbus Way, north of Adoree Street, at a distance of about 90 feet from the project site curb line. There are also single-family residential units located east of Ardis Avenue at Adoree, Borson, and Dalen Streets. The nearest of these units (on the corners), are at a distance of about 65 feet from the western Ardis Avenue curb line. Homes are also located along Dalen Street at a distance of about 55 feet from the southern border of the 9300 Imperial Highway facility. Finally, the Kaiser Permanente Hospital is located across Imperial Highway from this same facility. The highway has a curb-to-curb width of approximately 94 feet, and the hospital structure is set approximately 300 feet back from the highway.

A field survey was conducted on Tuesday, February 18, 2014 to determine ambient noise levels in the project area. The study included four noise readings all taken at the site as proximate to the adjoining sensitive land uses as feasible.

During the study, noise monitoring was conducted using a Quest Technologies Model 2900 Type 2 Integrating/logging Sound Level Meter. The unit meets the American National Standards Institute Standard S1.4-1983 for Type 2, International Electrotechnical Commission Standard 651-1979 for Type 2, and International Electrotechnical Commission Standard 651-1979 for Type 2 sound level meters. The unit was field calibrated using a Quest Technologies QC-10 calibrator immediately prior to the first set of readings. The calibration unit meets the requirements of the American National Standards Institute Standard S1.4-1984 and the International Electrotechnical Commission Standard 942: 1988 for Class 1 equipment. The accuracies of the meter and calibrator are maintained through a program established through the manufacturer and traceable to the National Bureau of Standards. The calibration of the meter was
rechecked at 12:25 P.M. after the final reading and no meter “drift” was noted. All obtained noise level measurements are included in Table 4. Monitoring locations are shown in Figure 3.

<table>
<thead>
<tr>
<th>Monitoring Location</th>
<th>Leq (dBA)</th>
<th>L_{02} (dBA)</th>
<th>L_{08} (dBA)</th>
<th>L_{25} (dBA)</th>
<th>L_{50} (dBA)</th>
<th>L_{min} (dBA)</th>
<th>L_{max} (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR-1</td>
<td>62.2</td>
<td>67.9</td>
<td>65.2</td>
<td>62.5</td>
<td>60.2</td>
<td>54.5</td>
<td>78.5</td>
</tr>
<tr>
<td>NR-2</td>
<td>57.0</td>
<td>61.6</td>
<td>59.5</td>
<td>57.3</td>
<td>56.2</td>
<td>53.0</td>
<td>65.1</td>
</tr>
<tr>
<td>NR-3</td>
<td>63.2</td>
<td>71.0</td>
<td>65.7</td>
<td>61.4</td>
<td>57.1</td>
<td>50.0</td>
<td>83.8</td>
</tr>
<tr>
<td>NR-4</td>
<td>66.1</td>
<td>71.7</td>
<td>70.4</td>
<td>67.5</td>
<td>64.3</td>
<td>51.2</td>
<td>75.7</td>
</tr>
</tbody>
</table>

1 The Leq represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The L_{02}, L_{08}, L_{25}, and L_{50} are the levels that are exceeded 2, 8, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 5, 15, and 30 minutes during a 1-hour period if the readings were extrapolated out to an hour’s duration. The L_min and L_max represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second during the measurement.
The results of the field study are summarized below. Note that all measurements included simultaneous vehicle counts for the adjacent streets. These counts, taken as a matter of course during the noise measurements, are typically used in the modeling prediction for long-term, project-generated traffic noise increases. However, once completed, except for occasional maintenance activities, this project would not draw additional vehicles to the site, so no such modeling is necessary for this case.

**NR-1**

This reading was taken at the project site along Columbus Way/Clark Avenue. Specifically, the meter was located along the east side of the street, 65 feet north of the Adoree Street curb line, and 35 feet east of the centerline of travel for the near, northbound lane. The road has a width of about 65 feet and the homes have a setback of about 25 feet from the curb line. Noise in this location approximates that at the
nearest homes located along Adoree Street and Columbus Way. The 15-minute reading was taken from 10:43 A.M. The freeway sits at a lower level than the site, and freeway traffic was not visible from the metered location. The dominant source of noise was from local traffic including vehicles on Columbus Way and the I-105 Freeway. During this period, 67 autos, one medium truck, and one heavy truck proceeded northbound, while 72 autos and three medium trucks went southbound along Columbus Way.

NR-2
This reading was obtained along the west side of Ardis Avenue at the residential neighborhood to the east of the project site. Specifically, the meter was placed over the planted strip across from the front lawn at 9402 Borson Street. The roadway has a width of about 41 feet, with an additional approximately 25 feet to the near structures. The 15-minute reading started at 11:11 A.M. The primary sources of noise were from background traffic on the freeway, aircraft, and passing vehicles including nine autos and one medium truck proceeding north and 14 autos heading south along Ardis Avenue.

NR-3
This reading was taken at the east parking lot entrance along Dalen Street. The meter was located over the dirt strip between the entrance and near parking space at a distance of 18 feet from the northern curb line. The road is unlined with a width of about 45 feet. The homes along Borson Street that back-up to Dalen Street would appear to be set at a slightly lower grade with about a 10-foot set-back to the near unit structures. The 15-minute reading began at 11:35 A.M.

Kaiser Permanente accepts deliveries at the facility to the immediate east and the dominant sources of noise were from operations at the truck depot including the unloading of a roll-off bin. Traffic along Dalen Street included 21 autos, one medium truck, and one heavy truck going eastbound, and 15 autos, one medium truck, and one heavy truck proceeding westbound. Aircraft noise and barking dogs in the neighborhood were also noted.

NR-4
This reading was obtained in the northeast parking lot along Imperial Highway. The meter was located over the dirt strip at the north end of the middle row of parked vehicles placing it approximately 43 feet from the Imperial Highway eastbound curb line. In this location, Imperial Highway has a curb-to-curb width of about 94 feet. Vehicles traveling along Imperial Highway were the dominant source of noise, though aircraft were also noted. Traffic along Imperial Highway included 191 autos, seven medium trucks, and three heavy truck going eastbound, and 248 autos, five medium trucks, and one heavy truck proceeding westbound.

**Sensitive Receptors** – Some land uses are considered more sensitive to noise than others due to the types of population groups or activities involved. Sensitive receptors
include residential areas and other sensitive land uses including any private or public school, hospital, residential care facility for the elderly, and religious institutions.

The project includes the construction and operation of solar panel-covered carports and rooftop. Predominantly, the project is to be placed in the LACOE parking lots that are not noise sensitive in nature. The nearest residential neighborhood units located to the west are immediately along Columbus Way, north of Adoree Street, at a distance of about 90 feet from the site’s curbline. There are also single-family residential units east of Ardis Avenue at Adoree, Borson, and Dalen Streets. The nearest of these units (on the corners), are at a distance of about 65 feet from the western Ardis Avenue curb line. Homes are also located along Dalen Street at a distance of about 55 feet from the southern border of the 9300 Imperial Highway facility. Finally, the Kaiser Permanente Hospital is located across Imperial Highway from this same facility. The highway has a curb-to-curb width of approximately 94 feet, and the hospital structure is set back approximately 300 feet from the highway.

Would the project result in:

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 (a): The City of Downey sets a standard for single-family dwellings of 50 – 60 dBA CNEL as “normally acceptable” and 55 – 70 dBA CNEL as “conditionally acceptable.” Hospitals are “normally acceptable” up to 70 dBA CNEL. Commercial uses, including the existing land use, are also “normally acceptable” up to 70 dBA CNEL.

With respect to projected increases, noise impacts can be broken down into three categories. The first is “audible” impacts, which refers to increases in noise level that are perceptible to humans. Audible increases in noise levels generally refer to a change of 3 dBA or more since this level has been found to be barely perceptible in exterior environments. The second category, “potentially audible,” refers to a change in noise level between 1 and 3 dBA. This range of noise levels was found to be noticeable to sensitive people in laboratory environments. The last category includes changes in noise level of less than 1 dBA that are typically “inaudible” to the human ear except under quiet conditions in controlled environments. Only “audible” changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant.

For stationary sources, the applicable noise standards include criteria established by local as well as any State regulations applicable to the proposed project. Mobile-source noise (i.e., vehicle noise) is preempted from local regulation but is still subject to CEQA review using threshold values for the level of increase for a significant noise impact. Additionally, stationary source impacts are typically due to noise generated from on-site equipment. However, the solar panels operate without sound. Therefore, they would
not produce noise in excess of local ordinance levels and any potential impact is would be less than significant.

b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

**Less Than Significant Impact (b):** The City of Downey does not set quantitative standards for vibration impact. With respect to construction, Caltrans notes that ground-borne vibration is typically associated with blasting operations, the use of pile drivers, and large-scale demolition activities, none of which are anticipated for the construction or operation of the project and any potential impacts of the project on off-site receptors are less than significant.

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

**Less Than Significant Impact (c):**

*Road Noise* – Long-term impacts could be significant if the project creates activity or generates a volume of traffic that would substantially raise the ambient noise levels. As discussed above, a substantial increase is defined as 3 dBA CNEL. However, with the exception of occasional maintenance activities, the solar panels and carports do not generate new vehicle trips so would not result in increased noise along site access routes.

*Stationary Source Noise* – As discussed above, the solar panels operate without noise so would not result in a permanent increase in noise at any sensitive locations proximate to the project site and the impact is less than significant.

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 (d):** Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. However, any increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

The second type of impact is related to noise generated by on-site construction operations and existing local residents would be subject to elevated noise levels due to the operation of on-site construction equipment. Construction activities are typically carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment,
similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 5 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Average Sound Levels Measured (dBA at 50 feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pile Drivers</td>
<td>101</td>
</tr>
<tr>
<td>Rock Drills</td>
<td>98</td>
</tr>
<tr>
<td>Jack Hammers</td>
<td>88</td>
</tr>
<tr>
<td>Pneumatic Tools</td>
<td>85</td>
</tr>
<tr>
<td>Pumps</td>
<td>76</td>
</tr>
<tr>
<td>Dozers</td>
<td>80</td>
</tr>
<tr>
<td>Front-End Loaders</td>
<td>79</td>
</tr>
<tr>
<td>Hydraulic Backhoe</td>
<td>85</td>
</tr>
<tr>
<td>Hydraulic Excavators</td>
<td>82</td>
</tr>
<tr>
<td>Graders</td>
<td>85</td>
</tr>
<tr>
<td>Air Compressors</td>
<td>81</td>
</tr>
<tr>
<td>Trucks</td>
<td>91</td>
</tr>
</tbody>
</table>


Noise ranges have been found to be similar during all phases of construction, although the actual construction of the structures tends to be somewhat less than that from grading. The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.). Typical operating cycles may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction of structures is somewhat reduced from this value and the physical presence of the structure may break up line-of-sight noise propagation.

Composite construction noise is best characterized by Bolt, Beranek, and Newman (USEPA December 31, 1971). In their study, construction noise for earthwork and finish-work related to “public works” type projects is presented as 88 dBA Leq when
measured at a distance of 50 feet from the construction effort. This value takes into account both the number of pieces and spacing of the heavy equipment used in the construction effort. Noise levels are typically reduced from this value and as they are placed, the physical structures further break up line of sight noise. However, as a worst-case scenario, the 88-dBA-value is used to assess the impact of construction.

The operation of such equipment would result in the generation of both steady and episodic noise significantly above the ambient levels currently experienced near the project site. The noise produced from construction decreases at a rate of approximately 6 dBA per doubling of distance. Therefore, at 100 feet the noise levels would be about 6 dBA less or 82 dBA Leq. Similarly, at 200 feet, the noise levels would be 12 dBA less or 76 dBA Leq.

The residents located across Columbus Way near Adoree and those along Adris could be on the order of 100 feet away from the most proximate construction at the 12830 Columbia Way facility. At this distance, noise levels could reach 82 dBA Leq. Construction at the south side of the 9300 Imperial Highway location could also be as close as about 100 feet to the proximate residents that back-up to Dalen Street with noise levels projected as high as 82 dBA Leq. Actual levels at the residents would be somewhat reduced because these residents are shielded by a wall that blocks noise created along Dalen Street and at the Kaiser Permanente receiving terminal. Finally, at approximately 400 feet, noise at the Kaiser Permanente hospital across Imperial Highway would be projected at 70 dBA Leq.

As noted, the City recognizes that construction noise sources are necessary and difficult to control and provides exemptions. The provisions for noise limits shall not be applied to construction, for which a valid building permit has been issued, between the hour of 7:00 A.M. and 10:00 P.M.

Moreover, during the vast majority of the construction period, noise levels at the proximate residents would considerably lower due to the smaller equipment appropriate to the limited construction at hand, lower power settings, and sound attenuation provided by longer distances. In light of the area (e.g., the proximate freeway and terminal operations at the Kaiser receiving facility), this range of noise levels is typically considered acceptable during daytime hours and less than significant so long as the Applicant abides by the City mandated hours for construction activities, as required, and the impact is less than significant.

  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?

**Less Than Significant Impact (e):** The Compton/Woodley airport is located along Alondra Boulevard between Central Avenue and Wilmington Avenue approximately 5.7 miles to the southwest while Long Beach Airport lies about 6 miles to the south. While
aircraft noise was noted in the field survey, the project is not in the direct flight path and well beyond the airports’ 60 dBA CNEL zones. No significant impacts would result from the implementation of the proposed project.

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?

Less Than Significant Impact (f): At about 3 miles to the east, the Southeast Superior Court heliport represents the closest private use air facility. The project site is no in the facility’s 60-dBA CNEL noise contour and no significant impacts would result from the implementation of the proposed project.

Mitigation Measures:

Although noise impacts during construction of the proposed project would be less than significant, the following mitigation measures are provided to further assist project environmental compliance.

Mitigation Measure N-1:

- Contractor shall use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers’ recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

- Contractor shall perform all construction in a manner to minimize noise and vibration. Noise levels will be required to adhere to noise ordinances, as defined by the City of Downey Municipal Codes, including permits to work at night or weekends. Contractor shall use construction methods or equipment that will provide the lowest level of noise and ground vibration impact near residences.

- Construction Manager shall perform noise and vibration monitoring to demonstrate compliance with the noise limits, as set forth in the City of Downey Municipal Code.

- Contractor shall turn off idling equipment when not in use.

*Population and Housing*

Would the project:

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

No Impact (a-c): The proposed project has no design components that would (a) induce substantial population growth, (b) either directly or indirectly; displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or (c) displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Public Services

Would the project:

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

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?

No Impact (a): The construction and operation of this proposed project would not alter the permitted commercial/manufacturing uses of the LACOE facilities, resulting in an increased demand for public services.

Recreation

Would the project:

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?
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 (a-b): The construction and operation of the proposed project would not increase the use of or need for neighborhood and regional parks or other recreational facilities, nor does the proposed project include recreational facilities or require the construction or expansion of recreational facilities.
Transportation/Traffic

Would the project:

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?

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?

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?

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

e) Result in inadequate emergency access?

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 (a-b): Construction and operation of the proposed solar panel carport and rooftop project within the boundaries of the LACOE would have no effect on any applicable plan (including a congestion management program), ordinance or policy establishing measures of effectiveness for the performance of existing circulation systems.

No Impact (c): The construction and operation of the proposed project would not 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 (d-e): The proposed project does not include changes to the existing parking lot design that would result in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, or result in inadequate emergency access. The proposed project design will be in compliance with all local, state, and federal laws, ordinances, and regulations relevant to potential on-site hazards and emergency access.

No Impact (f): Construction and operation of the proposed solar panel carport and rooftop project within the boundaries of the LACOE facilities would have no effect on any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
Utilities and Services Systems

Would the project:

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

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

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?

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

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?

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

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

No Impact (a-g): The proposed project would result in limited construction in the parking areas and on the EC building rooftop, and would not significantly alter the existing, permitted commercial/manufacturing office space or parking lot uses of the LACOE headquarters resulting in significant impacts to existing utilities and service systems. In addition, the solar panel project would use a limited amount of water twice a year for panel cleaning, and would comply with local, state, and federal policies and ordinances relating to recycling and solid waste disposal.

Mandatory Findings of Significance

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?
No Impact (a): Construction and operation of the proposed solar panel carport and rooftop project within the boundaries of the LACOE facilities would not have the potential to affect fish or wildlife habitat or eliminate important examples of the major periods of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant Impact (b): The proposed project has no significant impacts; therefore, the project would result in a less than significant cumulative impact.

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

Less Than Significant Impact (c): The proposed project has no significant impacts; therefore, it is not likely to result in environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.
LACOE Solar Project
Focused Air Quality Analysis

Appendix A
LACOE Solar Project Focused Air Quality Analysis

1.0 Methodology

This air quality evaluation was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) to determine if significant air quality impacts are likely to occur in conjunction with the type and scale of development associated with the proposed LACOE Solar Panel Covered Carport Project to be located in the City of Downey, California. The impact analysis contained in this report was prepared in accordance with the methodologies provided by the South Coast Air Quality Management District (SCAQMD) as included in CEQA Air Quality Handbook (April 1993) (Handbook) as well as updates included on the SCAQMD Internet web site. The analysis makes use of the CalEEMod urban emissions model, screening tables included in the SCAQMD’s Final Localized Significance Threshold Methodology (June 2003), and Sample Construction Scenarios for Projects Less than Five Acres in Size, (February 2005).

The LACOE Solar project would install approximately 274,554 square feet of solar panels on covered carports within the existing parking areas, including approximately 204,723 square feet at 12830 Columbia Way, and 70,031 square feet at 9300 Imperial Highway, and 19,839 square feet on the roof, also at 9300 Imperial Highway. Projected air emissions are calculated using the California Emissions Estimator Model (CalEEMod Version 2013.2.2) distributed by the SCAQMD. The CalEEMod model uses EMFAC2011 emissions factors for vehicle traffic and the OFFROAD2011 emissions factors for construction equipment. For the purposes of this analysis, the facility would become operational in 2014 with only a couple months necessary to make the proposed changes.

At the completion of construction, no additional traffic would be created from the operation of this equipment, and few trips would be required for yearly maintenance. No further impacts would be expected.

The calculated emissions of the project are compared to thresholds of significance for individual projects using the SCAQMD Handbook as well as their Internet updates. The analysis finds that all air quality emissions and localized concentrations would remain below their respective threshold values. Furthermore, the project is found to be consistent with the goals of the Air Quality and Climate Change Plans and no significant air quality impacts are projected.

2.0 Existing Conditions

2.1 Climate/Meteorology

The project area lies in the South Coast Air Basin (SCAB or Basin). The SCAB includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin is located in a coastal plain with connecting broad
valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climatological pattern is infrequently interrupted by periods of extremely hot weather, winter storms, or Santa Ana winds.

The annual average temperature varies little throughout the Basin, 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 SCAQMD reports that the weather station located in Los Angeles shows an annual average of 65°F. The average low is reported at 47°F in January while the average high is 84°F in July and August. All areas in the Basin have recorded temperatures above 100°F in recent years and temperatures as high as 110°F have been recorded at the Los Angeles station. January is typically the coldest month in this area of the Basin, with minimum temperatures in the 30s.

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November 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 around 14.85 inches per year in the project area as measured in Los Angeles.

Although the Basin has a semi-arid climate, the air near the 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 Basin by offshore winds, the ocean effect is dominant. Periods of heavy fog, especially along the coast, are frequent; and low stratus clouds are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the east portions of the Basin.

Wind patterns across the region are characterized by easterly winds during the winter and westerly winds in the summer. Wind speed is somewhat greater during the spring months. Annually, typical winds in the project area average about 5.3 mph as measured in Los Angeles.

Between the periods of dominant air flow, periods of air stagnation may occur, both in the morning and evening hours. Whether such a period of stagnation occurs 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 Basin, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally have a duration of a few days before predominant meteorological conditions are reestablished.

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: marine/subsidence inversion and the radiation inversion. The height of the base
of the inversion at any given time is known as the “mixing height.” This mixing height can change under conditions when the top of the inversion does not change. In the project area, 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.

2.2 Ambient Air Quality

The following characterization of the baseline atmospheric environment includes an evaluation of the ambient air quality and applicable rules, regulations, and standards for the area. Because the project has the ability to release gaseous emissions of criteria pollutants and dust into the ambient air, it falls under the ambient air quality standards promulgated on the local, State, and federal levels.

2.2.1 Affected Environment

Topographical features that affect the transport and diffusion of pollutants in the project area include the mountain ranges to the northeast that prevent the transport of pollutants. Air quality in the SCAB 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.

The quality of the ambient air is affected by pollutants emitted into the air from stationary and mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed and produce many small emissions.

Mobile sources refer to emissions from motor vehicles (including tailpipe and evaporative emissions) and are classified as either on-road or off-road. On-road sources are a combination of emissions from automobiles, trucks, and indirect sources. Indirect sources are sources that, by themselves, may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or consuming energy. Examples of indirect sources include a commercial center that generates vehicle trips and consumes energy resources through the use of natural gas for space and water heating. Indirect sources also include actions proposed by local governments, such as public and private development projects. In addition, indirect sources include those emissions created by the distance vehicles travel. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

2.2.2 Criteria Air Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by State and federal law. These regulated air pollutants are known as
“criteria air pollutants” and are categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NOx), sulfur dioxide (SO2), and most fine particulate matter (PM10 and PM2.5) including lead (Pb) and fugitive dust are primary air pollutants. Of these CO, SO2, PM10, and PM2.5 are criteria pollutants. ROG and NOx are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reaction in the atmosphere. Ozone (O3) and nitrogen dioxide (NO2) are the principal secondary pollutants.

Presented below is a description of each of these primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide (CO2), a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming. These emissions are now starting to be regulated and there are preliminary thresholds for their release. However, these pollutants do not jeopardize the attainment status of the SCAB.

**Carbon monoxide** (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is the interference of normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

**Reactive organic gases** (ROGs) are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion, associated with motor vehicle usage, is the major source of hydrocarbons. Other sources of ROG include the 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. Adverse effects on human health are not caused directly by ROG but rather by reactions of ROG to form secondary pollutants. Note that for the purposes of this analysis ROG and volatile organic compounds (VOC), such as the emissions released from paint, are synonymous.

**Nitrogen oxides** (NOx) serve as integral participants in the process of photochemical smog production. The two major forms of NOx are nitric oxide (NO) and nitrogen dioxide (NO2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO2 is a reddish-brown irritating gas formed by the combination of NO and oxygen (O). NOx acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

**Nitrogen dioxide** (NO2) is a byproduct of fuel combustion. The principal form of NO2 produced by combustion is nitric oxide (NO). NO reacts to form NO2, creating the mixture of NO and NO2 commonly called NOx. NO2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO2 is only potentially irritating. There is some indication of a relationship between NO2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2-3 years old) has been observed at concentrations below 0.3 ppm. NO2 absorbs blue
light, resulting in a brownish-red cast to the atmosphere and reduced visibility. NO₂ also contributes to the formation of PM₁₀ (particulates having an aerodynamic diameter of 10 microns or 0.0004 inch or less in diameter).

**Sulfur dioxide** (SO₂) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO₂. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations, when combined with particulates, SO₂ may injure lung tissue.

**Particulate matter** (PM) consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulate are now recognized. Course particles (PM₁₀) include that portion of the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles (PM₂.₅) have an aerodynamic diameter of 2.5 microns (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Wind action on the arid landscape also contributes substantially to the local particulate loading. Both PM₁₀ and PM₂.₅ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

**Fugitive dust** poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent. Fugitive dust can also result in a nuisance factor due to the soiling of proximate structures and vehicles.

**Ozone** (O₃) is one of a number of substances called photochemical oxidants that are formed when reactive organic compounds (ROC) and NOₓ (both by-products of the internal combustion engine) react with sunlight. O₃ is present in relatively high concentrations in the SCAB and the damaging effects of photochemical smog are generally related to the concentrations of O₃. O₃ may pose a health threat to those who already suffer from respiratory diseases as well as healthy people. O₃ has been tied to crop damage (typically in the form of stunted growth and pre-mature death) and acts as a corrosive (resulting in property damage such as the embitterment of rubber products).

### 2.2.3 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is an 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 H&SC 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 CAA (42 U.S.C. 7412[b]) is a TAC.
Under State law, the California Environmental Protection Agency (CalEPA), acting through the CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant which may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bills 1807 (Tanner Air Toxics Act) and 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 at 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 (T-BACT) to minimize emissions.

Air toxics from stationary sources are regulated in California under the Air Toxics “Hot Spot” Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the AQMD or APCD. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. To date, the CARB has designated nearly 200 compounds as TACs. Additionally, the 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 a relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM).

In 2000, the 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.

2.2.4 Other Effects of Air Pollution

Just as humans are affected by air pollution, so too are plants and animals. Animals must breathe the same air and are subject to the same types of negative health effects. Certain plants and trees may absorb air pollutants that can stunt their development or cause premature death, as well as interfere with their ability to convert CO₂ to oxygen. There are also numerous impacts to our economy including lost workdays due to illness, a desire on the part of business to locate in areas with a healthy environment, and increased expenses from medical costs. Pollutants may also lower visibility and cause damage to property. Certain air pollutants are responsible for discoloring painted surfaces, eating away at stones used in buildings, dissolving the mortar that holds bricks together, and cracking tires and other items made from rubber.
2.2.5 Greenhouse Gas Emissions

In 2005, in recognition of California’s vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gas would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which requires CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions).

In June 2007, CARB directed staff to pursue 37 early actions for reducing greenhouse gas emissions under AB 32. The broad spectrum of strategies to be developed – including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate greenhouse gas reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible.

In addition to approving the greenhouse gas reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within 6 months. The general sentiment of CARB suggested a desire to try to pursue greater greenhouse gas emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has evaluated all 48 recommendations submitted by several stakeholder and several internally-generated staff ideas and published the Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California, recommended for board consideration in October 2007. Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures. Nine of the strategies meet the AB 32 definition of discrete early action measures. Discrete early action measures are measures that will be in place and enforceable by January 1, 2010. The discrete early action items include: (1) a Low Carbon Fuel standards for ethanol, biodiesel, hydrogen, electricity, compressed natural gas, liquefied petroleum gas, and biogas; (2) restrictions on High Global Warming Potential Refrigerants; (3) Landfill Methane Capture; (4) Smartway Truck Efficiency; (5) Port Electrification; (6) Reduction of perfluorocarbons from the semiconductor industry; (7) Reduction of propellants in consumer products; (8) Tire inflation; and (9) Sulfur Hexafluoride (SF6) reductions from non-electricity sector.

The 2020 target reductions are currently estimated to be 174 million metric tons of
carbon dioxide (CO₂) equivalent (MMTCO₂e). In total, the recommended early actions have the potential to reduce greenhouse gas emissions by at least 42 MMTCO₂e emissions by 2020, representing about 25 percent of the estimated reductions needed by 2020. The CARB Board adopted Resolution 07-55 in December 2007, approving 427 MMTCO₂e as the statewide greenhouse gas emissions limit for 2020, which is equivalent to the 1990 emissions level. The measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression.

2.3 Ambient Air Quality Standards (AAQS)

The Clean Air Act Amendment of 1971 established national Ambient Air Quality Standards (AAQS) with states retaining the option to adopt more stringent standards or to include other pollution species. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “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 the State of California and the federal government have established health based Ambient Air Quality Standards for six air pollutants. As shown in Table 1, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM₁₀, PM₂.₅), and lead. 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.

In addition to primary and secondary Ambient Air Quality Standards, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants, which actually threaten public health.
### Table 1
**Ambient Air Quality Standards for Criteria Pollutants**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>California Standard</th>
<th>Federal Primary Standard</th>
<th>Major Pollutant Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O₃)</td>
<td>1 hour</td>
<td>0.09 ppm</td>
<td>*</td>
<td>Motor vehicles, paints, coatings, and solvents.</td>
</tr>
<tr>
<td></td>
<td>8 hours</td>
<td>0.070</td>
<td>0.075 ppm</td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>1 hour</td>
<td>20 ppm</td>
<td>35 ppm</td>
<td>Internal combustion engines, primarily gasoline-powered motor vehicles.</td>
</tr>
<tr>
<td></td>
<td>8 hours</td>
<td>9.0 ppm</td>
<td>9 ppm</td>
<td></td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO₂)</td>
<td>Annual Average</td>
<td>0.030 ppm</td>
<td>0.053 ppm</td>
<td>Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>0.18 ppm</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide (SO₂)</td>
<td>Annual Average</td>
<td>*</td>
<td>0.03 ppm</td>
<td>Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>0.25 ppm</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>0.04 ppm</td>
<td>0.14 ppm</td>
<td></td>
</tr>
<tr>
<td>Suspended Particulate Matter (PM₁₀)</td>
<td>Annual Arithmetic Mean</td>
<td>20 μg/m³</td>
<td>*</td>
<td>Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>50 μg/m³</td>
<td>150 μg/m³</td>
<td></td>
</tr>
<tr>
<td>Suspended Particulate Matter (PM₂.₅)</td>
<td>Annual Arithmetic Mean</td>
<td>12 μg/m³</td>
<td>15 μg/m³</td>
<td>Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>*</td>
<td>35 μg/m³</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>Monthly</td>
<td>1.5 μg/m³</td>
<td>*</td>
<td>Present source: lead smelters, battery manufacturing &amp; recycling facilities. Past source: combustion of leaded gasoline.</td>
</tr>
<tr>
<td></td>
<td>Quarterly</td>
<td>*</td>
<td>1.5 μg/m³</td>
<td></td>
</tr>
<tr>
<td>Sulfates (SO₄)</td>
<td>24 hours</td>
<td>25 μg/m³</td>
<td>*</td>
<td>Industrial processes.</td>
</tr>
</tbody>
</table>

**Notes:**
- ppm: parts per million; μg/m³: micrograms per cubic meter
- * = standard is not applicable for this pollutant/duration by this entity.

**Source:** California Air Resources Board
2.4 Air Quality Management Planning

2.4.1 Local Planning Requirements

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SCAB. Since 1979, a number of AQMPs have been prepared. The AQMP was designed to comply with State and federal requirements, reduce the high level of pollutant emissions in the SCAB, and ensure clean air for the region through various control measures. To accomplish its task, the AQMP relies on a multilevel partnership of governmental agencies at the federal, State, regional, and local level. These agencies (i.e., the USEPA, CARB, local governments, SCAG, and SCAQMD) are the cornerstones that implement the AQMP programs.

On December 7, 2012, the SCAQMD adopted the 2012 Air Quality Management Plan. The purposes of the 2012 AQMP for the Basin are to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour PM$_{2.5}$ air quality standard, to satisfy the planning requirements of the federal Clean Air Act, and to provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standards. It will also serve to satisfy the recent U.S. EPA proposed requirement for a new attainment demonstration of the revoked 1-hour ozone standard, as well as a VMT emissions offset demonstration. Specifically, the Plan will serve as the official SIP submittal for the federal 2006 24-hour PM$_{2.5}$ standard, for which U.S. EPA has established a due date of December 14, 2012. In addition, the 2012 AQMP will update specific new control measures and commitments for emissions reductions to implement the attainment strategy for the 8-hour ozone SIP, and thus help to reduce reliance on CAA Section 182(e)(5) long-term measures. Once approved by the District Governing Board and CARB, the 2012 AQMP will be submitted to U.S. EPA as the 24-hour PM$_{2.5}$ SIP addressing the 2006 PM$_{2.5}$ NAAQS and as a limited update to the approved 8-hour ozone SIP. The 1-hour ozone attainment demonstration and VMT emissions offset demonstration will also be submitted through CARB to EPA.

The 2012 AQMP also includes an update on the air quality status of the Salton Sea Air Basin (SSAB) in the Coachella Valley, a discussion of the emerging issues of ultrafine particle and near-roadway exposures, a report on the health effects of PM$_{2.5}$, and an analysis of the energy supply and demand issues that face the Basin and their relationship to air quality. Pursuant to statute, the public hearing will also discuss the report on health effects of PM$_{2.5}$ (Health & Safety Code §40471).

The 2012 AQMP incorporates the most recent planning assumptions and the best available information including: revised stationary point and area source emissions inventories; on-road and off-road mobile source emissions inventories based on CARB's latest EMFAC2011 and Off-Road Models; the use of new meteorological episodes for ozone and expanded air quality modeling analysis; and the latest demographic growth forecasts based on the approved 2012 Regional Transportation Plan (2012 RTP) developed by SCAG.
2.4.2 Air Quality Attainment Status

Areas that meet the ambient air quality standards are classified as “attainment” areas while areas that do not meet these standards are classified as “non-attainment” areas. The severity of the classifications for ozone non-attainment include and range in magnitude from: marginal, moderate, serious, severe, and extreme. The attainment status for the SCAB is included in Table 2.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>State Status</th>
<th>Federal Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (1-hour)</td>
<td>Extreme Non-attainment</td>
<td>Extreme Non-attainment (under the prior standard)</td>
</tr>
<tr>
<td>Ozone (8-hour)</td>
<td>Extreme Non-Attainment</td>
<td>Severe-17 (may petition for Extreme)</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>Serious Non-attainment</td>
<td>Serious Non-attainment</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>Non-attainment</td>
<td>Non-attainment</td>
</tr>
<tr>
<td>CO</td>
<td>Attainment</td>
<td>Attainment/Maintenance</td>
</tr>
<tr>
<td>NO_{2}</td>
<td>Attainment</td>
<td>Attainment/Maintenance</td>
</tr>
</tbody>
</table>

Source: California Air Resources Board

The Basin is also designated as attainment of the California Ambient Air Quality Standards (CAAQS) for SO_{2}, lead, and sulfates. Areas that are designated as Severe-17 for the ozone standard must meet attainment of the 8-hour standard by 2021 (2024 if reclassified to Extreme). Areas considered as serious non-attainment of the PM_{10} standards must have reached attainment by the end of 2006, or as expeditiously as possible. To date, the Basin still does not meet this standard. The PM_{2.5} attainment date is to be met in the year 2015.

2.4.3 State Planning Requirements

Executive Order S-3-05

Under Executive Order S-3-05, as signed by Governor Arnold Schwarzenegger on June 1, 2005, the following greenhouse gas (GHG) emission reduction targets were established for California: (1) by 2010, reduce GHG emissions to 2000 levels; (2) by 2020, reduce GHG emissions to 1990 levels; and (3) by 2050, reduce GHG emissions to 80 percent below 1990 levels. In response, in March 2006, the California Environmental Protection Agency (CalEPA) published a Climate Action Team (CAT) report detailing how State agencies could implement a series of policies to meet the 2010 and 2020 goals. As indicated therein, among the policy actions that are cited are “smart land use and intelligent transportation.” The CAT states that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented
development, and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. Intelligent transportation systems (ITS) is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods, and service.\textsuperscript{14}

\textbf{California Health and Safety Code}

Section 41700 of the H&SC requires that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, response, health, or safety of any such person or the public, or which causes, or have a natural tendency to cause, injury or damage to business or property.” Section 39606(b) of the H&SC authorizes the California Air Resources Board (CARB) to adopt standards for ambient air quality “in consideration of public health and safety, and welfare, including but not limited to health, illness, irritation to the senses, aesthetic value, interference with visibility, and the effects of air pollution on the economy.” The objective of ambient air quality standards (AAQS) is to provide a basis for preventing or abating adverse health or welfare effects of air pollution (17 CCR 70101).

Section 39607(e) requires that the CARB establish and periodically review area designation criteria. The CARB makes area designations for the following nine criteria pollutants: ozone (O\textsubscript{3}), carbon monoxide (CO), nitrogen dioxide (NO\textsubscript{2}), sulfur dioxide (SO\textsubscript{2}), particulate matter less than 10 microns (PM\textsubscript{10}), sulfates (SO\textsubscript{4}), lead (Pb), hydrogen sulfide (H\textsubscript{2}S), and visibility-reducing particles. Assembly Bill 2595, known as the California Clean Air Act (CCAA), divided non-attainment areas into categories with progressively more stringent requirements (Sections 40918-40920.5, H&SC). As specified, it is the responsibility of each air pollution control district (APCD) and air quality management district (AQMD) within the State to attain and maintain California Ambient Air Quality Standards (CAAQS).\textsuperscript{15} The CCAA requires that an attainment plan be developed by all non-attainment districts for O\textsubscript{3}, CO, sulfur oxides (SO\textsubscript{x}), and nitrogen oxides (NO\textsubscript{x}) that are either receptors or contributors of transported air pollutants. The CAAQS are listed in Table 1.\textsuperscript{16} Areas meeting CAAQS are classified as attainment; areas not meeting CAAQS are classified as non-attainment.

\textsuperscript{14} California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 58.

\textsuperscript{15} The CARB considers an area to be non-attainment of a CAAQS for a particular pollutant if the standards for O\textsubscript{3}, CO (except Lake Tahoe), SO\textsubscript{2} (1 hour and 24 hour), NO\textsubscript{2}, PM\textsubscript{10}, and visibility-reducing particles are exceeded.

\textsuperscript{16} These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. In addition to primary and secondary ambient air quality standards, the State has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants which threaten public health.
Assembly Bill 32 (California Global Warming Solutions Act of 2006), codified in Section 38500 et seq. of the H&SC, established a comprehensive program to reduce GHG by 2020 and identifies several major requirements that CARB is required to implement, including: (1) adoption and implementation of a list of discrete and early action GHG reduction measures; (2) approval of a Statewide1990 emission level that becomes the Statewide 2020 emissions limits; (3) adoption of mandatory GHG reporting rules for significant GHG sources; and (4) adoption of regulations to achieve the maximum technologically feasible and cost-effective reductions. As defined in Section 38505 of the H&SC, greenhouse gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

2.4.4 Federal Clean Air Act Requirements

The Federal Clean Air Act of 1970 (42 U.S.C. Section 7401 et seq.) (CAA) requires any new major stationary sources of air pollution and any major modifications to major stationary sources to obtain an air pollution permit before commencing construction. New Source Review (NSR) requirements (42 U.S.C. 7411) differ depending on the attainment status of the area where the major facility is to be located. Prevention of Significant Deterioration (PSD) requirements (42 U.S.C. 7470-7491) apply in areas that are in attainment of the National Ambient Air Quality Standards (NAAQS). Non-attainment area NSR requirements apply to areas that have not been able to demonstrate compliance with the NAAQS.

Section 108 of the CAA directs the United States Environmental Protection Agency (USEPA) to list pollutants that may reasonably be anticipated to endanger public health and welfare and to issue air quality criteria for those pollutants. The USEPA has set NAAQS for the following pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), and sulfur dioxide (SO₂). The NAAQS for those primary pollutants are listed in Table 1. Section 176(c) prohibits federal agencies from taking actions in NAAQS non-attainment or maintenance areas that do not conform to the State Implementation Plan (SIP) for the attainment and maintenance of NAAQS pursuant to Section 110(a). ¹⁷

2.5 Baseline Air Quality

Existing levels of ambient air quality and historical trends and projections in the project area are best documented by measurements made by the SCAQMD. The project is located within Source Receptor Area (SRA) 5 (Southeast Los Angeles County). Unfortunately, the SCAQMD does not gather and report data for SRA 5 and most levels

¹⁷ The purpose of conformity is to ensure federal activities do not interfere with the budgets in the SIPs, ensure actions do not cause or contribute to new violations, and ensure attainment and maintenance of the NAAQS.
are as presented for SRA 12 (South Central Los Angeles). However, even the South Central Los Angeles station does not monitor PM$_{10}$ particulate matter and these data are inferred from the Central Los Angeles monitoring station (SRA 1) located northeast. Data from these stations are summarized in Table 3. The measurements have shown that while ozone levels continue to exceed the California and national hourly standards, these occurrences are rare and no clear trend is discernable over the last 5 years, though latter years show a marked decrease in the number of violations from the historical numbers of earlier years.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State 1-hour &gt; 0.09 ppm</td>
<td>0$^2$</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State 8-hour &gt; 0.07 ppm</td>
<td>0$^2$</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Federal 1-hour &gt; 0.12 ppm</td>
<td>0$^2$</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Federal 8-hour &gt; 0.08/0.075 ppm</td>
<td>0$^2$</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max. 1-hour conc. (ppm)</td>
<td>0.078$^2$</td>
<td>0.104</td>
<td>0.081</td>
<td>0.082</td>
<td>0.086</td>
</tr>
<tr>
<td>Max. 8-hour conc. (ppm)</td>
<td>0.060$^2$</td>
<td>0.086</td>
<td>0.062</td>
<td>0.065</td>
<td>0.070</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State 8-hour &gt; 9.1 ppm</td>
<td>0$^2$</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max. 8-hour conc. (ppm)</td>
<td>4.3$^2$</td>
<td>4.6</td>
<td>3.6</td>
<td>4.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO$_2$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State 1-hour &gt; 0.18 (ppm)</td>
<td>0$^2$</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max. 1-hour conc. (ppm)</td>
<td>0.12$^2$</td>
<td>0.09</td>
<td>0.0768</td>
<td>0.0754</td>
<td>0.0793</td>
</tr>
<tr>
<td>Inhalable Particulates (PM$_{10}$)$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State 24-hour &gt; 50 µg/m$^3$</td>
<td>2/45$^2$</td>
<td>4/60</td>
<td>0/56</td>
<td>1/59</td>
<td>4/60</td>
</tr>
<tr>
<td>Federal 24-hour &gt; 150 (µg/m$^3$)</td>
<td>0/45$^2$</td>
<td>0/60</td>
<td>0/56</td>
<td>0/59</td>
<td>0/60</td>
</tr>
<tr>
<td>Max. 24-hour conc. (µg/m$^3$)</td>
<td>66$^2$</td>
<td>72</td>
<td>42</td>
<td>53</td>
<td>80</td>
</tr>
<tr>
<td>Inhalable Particulates (PM$_{2.5}$)$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal 24-Hour &gt; 65/35 µg/m$^3$</td>
<td>0/118</td>
<td>3/114</td>
<td>1/111</td>
<td>1/110</td>
<td>1/115</td>
</tr>
<tr>
<td>Max. 24-Hour Conc. (µg/m$^3$)</td>
<td>44.2</td>
<td>69.2</td>
<td>38.2</td>
<td>35.3</td>
<td>51.2</td>
</tr>
</tbody>
</table>
Although NO₂ measurements indicate that no standards were exceeded, NO₂ is a precursor to O₃ formation, which occasionally does exceed the standards. Hydrocarbons and NO₂ are emitted by both mobile and stationary sources, with the greater portion emanating from mobile sources in the Basin. These concentrations increase during the summer, with concentrations increasing from the late morning through the afternoon.

With regard to particulate matter, no trend is readily apparent. The State standard for PM₁₀ was exceeded 11 of the 280 times (3.9 percent) in the last 5 years that it was monitored. The federal standard has not been violated in the last 5 years. However, the federal standard for PM₂.₅ was exceeded six of the 568 times (1.1 percent) in the last 5 years. Suspended particulate matter (both total suspended particulates [TSP], and PM₁₀ and PM₂.₅) is a mixture of natural and manmade materials that include soil particles, biological materials, sulfates, nitrates, organic compounds, and lead. Smaller particles (PM₁₀, PM₂.₅) are created by the combustion of fossil fuels, but are also given off from tire wear and brake dust.

2.6 Standard Conditions and Uniform Codes

All projects constructed in the SCAB are subject to standard conditions and uniform codes. Compliance with these provisions is mandatory and as such, does not constitute mitigation under CEQA. Those conditions specific to air quality are included below.

- Adherence to SCAQMD Rule 403, which sets requirements for dust control associated with grading and construction activities.
- Adherence to SCAQMD Rules 431.1 and 431.2, which require the use of low sulfur fuel for stationary construction equipment.
- Adherence to SCAQMD Rule 1108, which sets limitations on ROG content in asphalt.
- Adherence to SCAQMD Rule 1113, which sets limitations on ROG content in architectural coatings.
- Adherence to SCAQMD Rule 1143, which sets limitations on ROG content in consumer paint thinners and multipurpose solvents.
During construction, the project would be subject to SCAQMD Rule 403 (Fugitive Dust). SCAQMD Rule 403 does not require a permit for construction activities but sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the Basin. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust source) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. SCAQMD Rule 403 also prohibits a construction site from causing an incremental PM$_{10}$ concentration impact at the property line of more than 50 $\mu$g/m$^3$ as determined through PM$_{10}$ high-volume sampling. The concentration standard and associated PM$_{10}$ sampling do not apply if specific measures identified in the rule are implemented and appropriately documented.

In accordance with Rule 403, the SCAQMD requires that contractors implement Best Available Control Technology (BACT) for construction activities. Rule 403 identifies two sets of specific measures, one for projects less than 50 acres and another set of conditions for projects that exceed 50 acres. The requirements applicable to the project are included in Table 4. Note that these measures are regulatory requirements and as such, do not constitute mitigation under CEQA.

<table>
<thead>
<tr>
<th>Source Category</th>
<th>Control Measures</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backfilling</td>
<td>Stabilize backfill material when not actively handling; and Stabilize backfill material during handling; and stabilize soil at completion of activity</td>
<td>Mix backfill soil with water prior to moving; and dedicate water truck or high capacity hose to backfilling equipment; and empty loader bucket slowly so that no dust plumes are generated; and Minimize drop height from loader bucket.</td>
</tr>
<tr>
<td>Clearing and Grubbing</td>
<td>Maintain stability of soil through prewatering of site prior to clearing and grubbing; and stabilize soil during clearing and grubbing activities; and Stabilize soil immediately after clearing and grubbing activities.</td>
<td>Maintain live perennial vegetation where possible; and apply water in sufficient quantity to prevent generation of dust plumes.</td>
</tr>
<tr>
<td>Clearing Forms</td>
<td>Use water spray to clear forms; or use sweeping and water spray to clear forms; or Use vacuum system to clear forms.</td>
<td>Use of high pressure air to clear forms may cause exceedance of rule requirements.</td>
</tr>
<tr>
<td>Crushing</td>
<td>Stabilize surface soils prior to operation of support equipment; and stabilize material after crushing.</td>
<td>Follow permit conditions for crushing equipment; and Pre-water material prior to loading into crusher; and monitor crusher emissions opacity; and apply water to crushed material to prevent dust plumes.</td>
</tr>
<tr>
<td>Cut and Fill</td>
<td>Pre-water soils prior to cut and fill activities; and stabilize soil during and after cut and fill activities.</td>
<td>For large sites, pre-water with sprinklers or water trucks and allow time for penetration; and use water trucks/pulls to water soils to depth of cut prior to subsequent cuts.</td>
</tr>
<tr>
<td>Table 4</td>
<td>SCAQMD REQUIRED BEST AVAILABLE CONTROL MEASURES</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Demolition</strong></td>
<td>Stabilize wind erodible surfaces to reduce dust; and stabilize surface soil where support equipment and vehicles will operate; and stabilize loose soil and demolition debris; and Comply with Rule 1403.</td>
<td></td>
</tr>
<tr>
<td>Mechanical/Manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disturbed Soil</strong></td>
<td>Stabilize disturbed soil throughout the construction site; and stabilize disturbed soil between structures</td>
<td></td>
</tr>
<tr>
<td><strong>Earth-Moving</strong></td>
<td>Pre-apply water to depth of proposed cuts; and re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and stabilize soils once earth-moving activities are complete.</td>
<td></td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Grade each project phase separately, timed to coincide with construction phase; and upwind fencing can prevent material movement on site; and apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.</td>
<td></td>
</tr>
<tr>
<td><strong>Importing/Exporting of</strong></td>
<td>Stabilize material while loading to reduce fugitive dust emissions; and maintain at least six inches of freeboard on haul vehicles; and stabilize material while transporting to reduce fugitive dust emissions; and stabilize material while unloading to reduce fugitive dust emissions; and comply with CVC Section 23114.</td>
<td></td>
</tr>
<tr>
<td><strong>Bulk Materials</strong></td>
<td>Use tarps or other suitable enclosures on haul trucks; and check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage; and comply with track-out prevention/mitigation requirements; and provide water while loading and unloading to reduce visible dust plumes.</td>
<td></td>
</tr>
<tr>
<td><strong>Landscaping</strong></td>
<td>Stabilize soils, materials, slopes</td>
<td></td>
</tr>
<tr>
<td><strong>Road Shoulder</strong></td>
<td>Apply water to unpaved shoulders prior to clearing; and apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs; and use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs.</td>
<td></td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Pre-water material prior to screening; and limit fugitive dust emissions to opacity and plume length standards; and stabilize material immediately after screening.</td>
<td></td>
</tr>
<tr>
<td>****</td>
<td>Dedicate water truck or high capacity hose to screening operation; and drop material through the screen slowly and minimize drop height; and install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point.</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staging Areas</td>
<td>Stabilize staging areas during use; and stabilize staging area soils at project completion.</td>
<td>Limit size of staging area; and limit vehicle speeds to 15 miles per hour; and limit number and size of staging area entrances/exits.</td>
</tr>
<tr>
<td>Stockpiles/Bulk Material Handling</td>
<td>Stabilize stockpiled materials, and stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.</td>
<td>Add or remove material from the downwind portion of the storage pile; and maintain storage piles to avoid steep sides or faces.</td>
</tr>
<tr>
<td>Traffic Areas for Construction Activities</td>
<td>Stabilize all off-road traffic and parking areas; and stabilize all haul routes; and direct construction traffic over established haul routes.</td>
<td>Apply gravel/paving to all haul routes as soon as possible to all future roadway areas; and barriers can be used to ensure vehicles are only used on established parking areas/haul routes.</td>
</tr>
<tr>
<td>Trenching</td>
<td>Stabilize surface soils where trencher or excavator and support equipment will operate; and stabilize soils at the completion of trenching activities.</td>
<td>Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching; and washing mud and soils from equipment at the conclusion of trenching activities can prevent crustation and drying of soil on equipment.</td>
</tr>
<tr>
<td>Truck Loading</td>
<td>Pre-water material prior to loading; and ensure that freeboard exceeds six inches (CVC 23114)</td>
<td>Empty loader bucket such that no visible dust plumes are created; and ensure that the loader bucket is close to the truck to minimize drop height while loading.</td>
</tr>
<tr>
<td>Turf Overseeding</td>
<td>Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and cover haul vehicles prior to exiting the site.</td>
<td>Haul waste material immediately off-site.</td>
</tr>
<tr>
<td>Unpaved Roads/Parking Lots</td>
<td>Stabilize soils to meet the applicable performance standards; and limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.</td>
<td>Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements.</td>
</tr>
</tbody>
</table>
2.7 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 considered to be sensitive 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 as sensitive since 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 since 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.

The project is to be placed in the LACOE parking lots that are not sensitive in nature. The nearest residential neighborhood units located to the west are immediately along Clark Avenue, north of Adoree Street, at a distance of about 90 feet from the site boundary. There are also single family residential units east of Avenue at Adoree, Borson, and Dalen Streets. The nearest of these units (on the corners), are at a distance of about 65 feet from the western Ardis Avenue curb line. Homes are also located along Dalen Street at a distance of about 55 feet from the southern border of the 9300 Imperial Highway facility. Finally, the Kaiser Permanente Hospital is located across Imperial Highway from this same facility. The highway has a curb-to-curb width of approximately 94 feet, and the hospital structure is set well back from the road.
3.0 Threshold of Significance Criteria

Presented below are the threshold of significance criteria identified by the SCAQMD relative to this topical issue. In accordance therewith, the proposed project would normally be deemed to produce a significant land use impact if the project or if project-related activities were to:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- 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 standards.
- Expose sensitive receptors to substantial air pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As indicated in Section 15064(i)(1) of the State CEQA Guidelines, “cumulatively considerable” is defined to mean “that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

In order to determine whether or not the proposed project would cause a significant effect on the environment, the impact of the project must be determined by examining the types and levels of emissions generated and its impacts on factors that affect air quality. To accomplish this determination of significance, the SCAQMD has established air pollution thresholds against which a proposed project can be evaluated and assist lead agencies in determining whether or not the proposed project is significant. If the thresholds are exceeded by a proposed project, then it should be considered significant.

While the final determination of whether or not a project is significant is within the purview of the lead agency, the SCAQMD recommends that the following air pollution thresholds be used in determining whether the construction or operational phase of a proposed project is significant. As recommended by the SCAQMD, if the lead agency finds that the proposed project has the potential to exceed any of these air pollution thresholds, the project should be considered significant.
3.1 Construction Phase - Thresholds of Significance

The following significance thresholds for air quality have been established by the SCAQMD on a daily basis for construction emissions:

- 75 pounds per day for ROG
- 100 pounds per day for NOx
- 550 pounds per day for CO
- 150 pounds per day of SOx
- 150 pounds per day for PM$_{10}$
- 55 pounds per day for PM$_{2.5}$

During construction, if any of the identified daily air pollutant thresholds are exceeded by the proposed project, then the project’s air quality impacts may be considered significant.

3.2 Operational Phase - Thresholds of Significance

Specific criteria air pollutants have been identified by the SCAQMD as pollutants of special regional concern. Based upon this categorization, the following significance thresholds have been established by the SCAQMD for project operations:

- 55 pounds per day of ROG
- 55 pounds per day of NOx
- 550 pounds per day of CO
- 150 pounds per day of SOx
- 150 pounds per day of PM$_{10}$
- 55 pounds per day for PM$_{2.5}$

Projects within the SCAB with daily operation-related emissions that exceed any of the above emission thresholds may be considered significant. The SCAQMD indicates in Chapter 6 of their Handbook that they consider a project to be mitigated to a level of insignificance if its primary effects are mitigated below the thresholds provided above.

In addition to the criteria pollutants, the SCAQMD Working Group has established a tentative threshold of 3,000 metric tons (Mtons) per year for CO$_2$e emissions for residential and commercial projects, and a threshold of 10,000 Mtons per year for industrial projects.

3.3 Local Emission Standards

In addition to the mass daily threshold values presented above, projects that have the ability to exceed or add measurably to an existing excess of the ambient concentrations presented in Table 1 may be considered significant. The following localized significance thresholds have been established by the SCAQMD for individual projects:
• California State 1-hour CO standard of 20.0 ppm
• California State 8-hour CO standard of 9.0 ppm
• California State 1-hour NO₂ standard of 0.18 ppm
• SCAQMD 24-hour construction PM₁₀ and PM₂.₅ standards of 10.4 µg/m³
• SCAQMD 24-hour operational PM₁₀ and PM₂.₅ standards of 2.5 µg/m³

If ambient levels already exceed a State or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. In the case of CO, the SCAQMD defines a measurable amount as 1.0 ppm or more for the 1-hour CO concentration or 0.45 ppm or more for the 8-hour CO concentrations. The SCAQMD indicates that they consider a project to be mitigated to a level of insignificance if its secondary effects are mitigated below these thresholds.

4.0 Environmental Impacts and Mitigation Measures

The LACOE Solar project would place solar panel-covered carports in the existing parking areas, and solar panels on the roof on an existing structure. No grading or major construction is proposed and the Applicant shall utilize the existing parking areas and on-site structures to house the solar panels. The manpower, equipment use, and timing used in the construction are as provided by the Applicant and reasonable to the project at hand.

Once operational, the project would not draw additional traffic nor produce pollutant emissions. Occasional maintenance of the panels would be required, but this would be very limited attracting only a few vehicle trips per year. Any emissions generated by these maintenance vehicles would be more than compensated from emissions savings due to the use of the solar panels over the fossil fuels that would be required to produce this electricity. Projected air emissions are calculated using the California Emissions Estimator Model (CalEEMod Version 2013.2.2) distributed by the SCAQMD. The CalEEMod model uses EMFAC2011 emissions factors for vehicle traffic and the OFFROAD2011 emissions factors for construction equipment and the analysis assumes all construction equipment is used for 8 hours per day.

For ease of the reader, the analysis follows the format included in the California CEQA Guidelines, Appendix G: Environmental Checklist Form for Section III. AIR QUALITY and Section VII. GREENHOUSE GAS EMISSIONS addressing each issue included in those sections, respectively.

4.1 Project Consistency With the Applicable Air Quality Plan

Less than Significant Impact. CEQA requires that projects be consistent with the AQMP. A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the AQMP in the following ways: (1) it fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed; and (2) it provides the
local agency with ongoing information assuring local decision-makers that they are making real contributions to clean air goals contained in the AQMP.

Only new or amended general plan elements, specific plans, and regionally significant projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are, therefore, considered consistent with the air quality management plan.

As proposed, the Applicant seeks approval to install solar panel carports in existing parking areas. The project does not result in significant construction emissions, and when operational, the project would be expected to reduce stationary source emissions associated with electrical power generation. Additionally, the project would not result in significant localized air quality impacts. As such, the project is consistent with the goals of 2012 AQMP and, in that respect, does not present a significant air quality impact.

4.2 Project Potential to Violate or Add to a Violation of an Air Quality Standard

4.2.1 Construction Impacts

Less than Significant Impact. Air quality impacts may occur during construction activities required to implement the proposed changes. The site is already paved with asphalt and no grading is necessary. The Applicant estimates that construction would take 14 weeks to complete. The effort is reported to require 18 workers on a daily basis. The equipment is estimated to include a backhoe to break-up and remove the asphalt, as necessary, a drill rig for setting posts, a crane to lift the pieces into place, and eight aerial lifts. Additionally, 12 vendor trips per day are estimated for the delivery of materials. Finally, the Applicant estimates that as many as six trucks could be used at the site, and the model assumes these as “haul trips.” For the purposes of this analysis, construction is estimated to begin in July 2014 and take 14 weeks, or 70 working days, and all equipment would be used on a daily basis for 8 hours per day over this time.

Table 5 includes the daily emissions projected for site construction. Note that all values are within their respective thresholds and the impact is less than significant.

<table>
<thead>
<tr>
<th>Source</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SO₂</th>
<th>PM₁₀ Dust</th>
<th>PM₁₀ Exhaust</th>
<th>PM₁₀ Total</th>
<th>PM₂.₅ Dust</th>
<th>PM₂.₅ Exhaust</th>
<th>PM₂.₅ Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Road Diesel</td>
<td>4.30</td>
<td>42.15</td>
<td>26.20</td>
<td>0.04</td>
<td>0.00</td>
<td>2.45</td>
<td>2.45</td>
<td>0.00</td>
<td>2.30</td>
<td>2.30</td>
</tr>
<tr>
<td>Hauling</td>
<td>0.01</td>
<td>0.09</td>
<td>0.06</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Vendor Trips</td>
<td>0.54</td>
<td>2.79</td>
<td>3.50</td>
<td>0.01</td>
<td>0.15</td>
<td>0.05</td>
<td>0.20</td>
<td>0.04</td>
<td>0.05</td>
<td>0.09</td>
</tr>
<tr>
<td>Worker Trips</td>
<td>1.05</td>
<td>0.27</td>
<td>3.04</td>
<td>0.01</td>
<td>0.40</td>
<td>0.00</td>
<td>0.41</td>
<td>0.11</td>
<td>0.00</td>
<td>0.11</td>
</tr>
</tbody>
</table>
### 4.2.2 Operational Impacts

**Less than Significant Impact.** As noted, once operational, the solar panels would only require occasional maintenance drawing only a few vehicle trips per year. Additionally, the panels would reduce the consumption of fossil fuels associated with the production of electricity resulting in a net emissions reduction. No significant impacts are associated with their use.

### 4.3 Project Potential to Result in a Cumulatively Considerable Increase in Criteria Pollutants

**Less than Significant Impact.** In accordance with SCAQMD methodology, projects that do not exceed or can be mitigated to less than the daily threshold values do not add significantly to a cumulative impact. Criteria pollutants are all within the recommended SCAQMD threshold levels for both construction and operation and this impact is less than significant.

### 4.4 Project Potential to Expose Sensitive Receptors to Substantial Pollutant Concentrations

#### 4.4.1 Short-Term Localized Impacts

**Less than Significant Impact.** In addition to the mass daily threshold standards discussed above, project construction has the potential to raise localized ambient pollutant concentrations. This could present a significant impact if these concentrations were to exceed the ambient air quality standards included in Table 1 at receptor locations.

The SCAQMD has developed screening tables for the construction of projects up to five acres in size. These tables are included in the SCAQMD’s Final Localized Significance Threshold Methodology (June 2003) and are periodically updated on the SCAQMD Internet web site. The most current update was in 2008 and these data are use in the analysis. The emissions values included in the screening tables are based on the

---

**Table:**

<table>
<thead>
<tr>
<th>Source</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SO₂</th>
<th>PM₁₀ Dust</th>
<th>PM₁₀ Exhaust</th>
<th>PM₁₀ Total</th>
<th>PM₂₅ Dust</th>
<th>PM₂₅ Exhaust</th>
<th>PM₂₅ Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals</td>
<td>5.90</td>
<td>45.30</td>
<td>32.80</td>
<td>0.06</td>
<td>0.55</td>
<td>2.50</td>
<td>3.07</td>
<td>0.15</td>
<td>2.35</td>
<td>2.50</td>
</tr>
<tr>
<td>Daily Threshold</td>
<td>75</td>
<td>100</td>
<td>550</td>
<td>150</td>
<td>→</td>
<td>→</td>
<td>→</td>
<td>→</td>
<td>→</td>
<td>55</td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>→</td>
<td>→</td>
<td>No</td>
<td>→</td>
<td>→</td>
<td>No</td>
</tr>
</tbody>
</table>

**Notes:**

The CalEEMod model projects summer and winter emissions and the higher of the two values was included in the table.
emissions produced at the site and do not include mobile source emissions (i.e., trucks and worker vehicles) spread over a much larger area.

Screening level allowable emissions are calculated from the “mass-rate look-up tables” included in the Final Localized Significance Threshold Methodology (Appendix C). Rather than using the entirety of the site, the CalEEMod emissions model bases the area of disturbance on equipment use. Dozers, graders, and crawler tractors are estimated to disturb an area of 0.5 acre while scrapers are estimated to disturb 1.0 acre over an 8-hour work day. None of these pieces of equipment would be used in the construction of the project.

In accordance with the screening tables, construction emissions for a 1 acre site in Source Receptor Area (SRA) 5, where the project is located, would not create significant localized impacts, even at the closest receptor locations (25 meters), so long as the daily emissions levels do not exceed 80, 571, 4, and 3 pounds per day for NOx, CO, PM10, and PM2.5, respectively. These values are only to include the equipment that actually operates at the site and note the worker, vendor, or haul trips that are distributed over a much greater area. These on-site emissions are projected at 42.15, 26.20, 2.45, and 2.30 pounds per day, respectively.

The project is divided into two areas to include 204,723 square feet of panels (4.7 acres), and 89,870 square feet of panels (2.1 acres). Construction could occur anywhere within either area on a daily basis. As each of these areas is larger than 1 acre, and the projected construction emissions would not exceed the screening level threshold values for a 1-acre parcel, no significant localized impacts would be projected for the construction of the project.

### 4.4.2 Long-Term Localized Impacts

**Less than Significant Impact.** Long-term effects of the proposed project could also be significant if they exceed the CAAQS. As noted for construction, these criteria only apply to CO, NO2, PM10, and PM2.5. CO and NO2 would be significant if the project were to raise existing levels above those values included in the CAAQS. Again, because the Basin is a non-attainment area for particulate matter, the operational thresholds for both PM10 and PM2.5 are set at a measurable increase of 2.5 µg/m³.

Unlike construction equipment that generates exhaust and dust in a set area, the primary source of emissions from project operations is due to the addition of vehicles on the roadway system. These emissions are then spread over a vast area and do not result in localized concentrations in proximity to the project site. As such, localized modeling for the project operations is not prepared for residential, limited commercial, or light industrial development that does not include a truck terminal.

Because CO is the criteria pollutant that is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, long-term adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. In
the past, areas of vehicle congestion had the potential to create “pockets” of CO called “hot spots.” However, the SCAB has now been designated as an Attainment area of both the State and federal CO standards, and no hot spots have been reported in the project area in more than the last 5 years. CO is no longer a localized pollutant of concern near roadways and as such this analysis is no longer necessary. Furthermore, other than the occasional trip for maintenance, the project would not add local traffic nor add measurably to local CO levels in the project area and any impact would be less than significant.

4.5 Project Potential to Create Objectionable Odors

Less than Significant Impact. Project construction would involve some use of heavy equipment creating exhaust pollutants. With regards to nuisance odors, any air quality impacts will be confined to the immediate vicinity of the equipment itself. By the time such emissions reach any sensitive receptor sites away from the project site, they will be diluted to well below any level of air quality concern. An occasional “whiff” of diesel exhaust from passing equipment and trucks accessing the site from public roadways may result. Such brief exhaust odors are an adverse but less-than-significant, air quality impact.

Once operational, no odors are associated with the use of the use of the solar panels or the carport structures.

4.6 Project Potential to Generate Greenhouse Gas Emissions, Either Directly or Indirectly, that may have a Significant Impact on the Environment

Less than Significant Impact. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD has convened a GHG CEQA Significance Threshold Working Group for the process of establishing a threshold for GHG emissions to determine a project’s regional contribution toward global climate change impacts for California. On September 28, 2010 the SCAQMD put forth a threshold of 3,000 metric tons (MTons) of CO₂e per year for residential, commercial, and mixed use projects and 10,000 Mtons CO₂e for industrial projects under CEQA. The SCAQMD also suggests that a threshold of 3,500 Mtons may be appropriate for residential development if commercial is limited to 1,400 Mtons and mixed-use is limited to 3,000 Mtons so long as these values are used consistently.

Construction

The Applicant estimates that construction would take about 14 weeks. For the purposes of this analysis, construction is estimated to begin in July 2014 and run for 70 working days (i.e., 14 weeks x 5 working days per week).

Construction activities would consume fuel and result in the generation of greenhouse gases. Annual construction CO₂e emissions are as projected using the CalEEMod
computer model and included in Table 6. Note that these emissions are within the threshold value and the impact is less than significant. It should also be noted, that these emissions are based on 70 days of active construction over the year. If it is assumed that there are 260 days of active construction in a year, the yearly total would be 661.07 Mtons of CO$_2$e on an annual basis (i.e., 177.98 Mtons / 70 days x 260 days). Even this value would not exceed the threshold and from this standpoint, any extension of a construction schedule would not create significant greenhouse gas emissions so long as the same equipment is employed.

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$</th>
<th>CH$_4$</th>
<th>N$_2$O</th>
<th>Total CO$_2$e$^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Road Diesel</td>
<td>145.10</td>
<td>0.04</td>
<td>0.00</td>
<td>145.93</td>
</tr>
<tr>
<td>Hauling</td>
<td>0.56</td>
<td>0.00</td>
<td>0.00</td>
<td>0.56</td>
</tr>
<tr>
<td>Vendor</td>
<td>17.09</td>
<td>0.00</td>
<td>0.00</td>
<td>17.10</td>
</tr>
<tr>
<td>Workers</td>
<td>14.37</td>
<td>0.00</td>
<td>0.00</td>
<td>14.39</td>
</tr>
<tr>
<td>Totals</td>
<td>177.12</td>
<td>0.04</td>
<td>0.00</td>
<td>177.98</td>
</tr>
<tr>
<td>Threshold</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>3,000</td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>No</td>
</tr>
</tbody>
</table>

$^1$ Because different gases have different conversion factors, totals may not equal.

**Site Operations**

In the case of site operations, the majority of greenhouse gas emissions, and specifically CO$_2$, is typically due to vehicle travel, energy consumption, and water use. However, the project would generate only a few vehicle trips per year for maintenance. Additionally, the project produces energy reducing dependence on polluting fossil fuels. Finally, the provision for the carports shade the cars beneath and potentially reduce the need for use of the vehicles’ air conditioning units at start-up reducing the load on the engine and attendant emissions. Any impact is less than significant.

4.7. **Project potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

**Less than Significant Impact.** An impact can also be potentially significant if the project does not comply with the applicable plans necessary for the reduction of greenhouse gases. Like air quality impacts, projects that generate de minimus levels (i.e., less than 3,000 Mtons per year) and don’t result in a significant impact or can be mitigated to less than significant would be deemed to be in compliance of the local policies with respect to GHG.
**Construction**

As demonstrated above, construction is estimated to generate about 177.98 Mtons of CO₂e. This value is below the 3,000-Mton threshold value and the cumulative impact to climate change is less than significant. As such, construction would not conflict with existing plans and policies.

**Site Operations**

The project does not generate regular vehicle trips and reduces the dependence on fossil fuels to provide electricity to the power grid representing a long-term benefit.

**5.0 References**

California Air Resources Board, California Surface Wind Climatology, Reprinted February 1994

South Coast Air Quality Management District, A Climatological/Air Quality Profile, California South Coast Air Basin, Prepared by Ralph W. Keith, 1980


South Coast Air Quality Management District, California Emission Estimator Model, Version 2013.2.2, October, 2013

South Coast Air Quality Management District, Draft Final 2012 Air Quality Management Plan, December 7, 2012

South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2003

South Coast Air Quality Management District, Main Presentation, Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #15, September 28, 2010,

South Coast Air Quality Management District, Rules and Regulations, January 1993

South Coast Air Quality Management District, Sample Construction Scenarios for Projects Less than Five Acres in Size, February 2005

South Coast Air Quality Management District, SCAQMD CEQA Air Quality Handbook, April 1993
CalEEMod Model Results for:

Winter Construction Emissions
Summer Construction Emissions
Annual Construction Emissions
LACOE Solar Project
Focused Noise Analysis

Appendix B
LACOE SOLAR PROJECT FOCUSED NOISE ANALYSIS

1.0 Methodology

The following analysis provides a discussion on the fundamentals of sound, examines Federal, State, and City noise guidelines and policies, reviews noise levels at the site and existing receptor locations, and evaluates potential noise impacts associated with the proposed project. This evaluation was prepared in conformance with local standards and utilizes procedures and methodologies as specified by Caltrans and the Federal Highway Administration. The evaluation of noise impacts associated with a proposed project includes:

- Reviewing existing ambient noise levels including traffic-noise modeling in the project area,
- Determining the noise impacts associated with site development,
- Determining the long-term noise impacts from project-related traffic, and
- Determining the long-term noise impacts from on-site noise on off-site occupants.

The generation of noise associated with the implementation of the proposed project would occur in the short-term with construction activities and over the long-term from the on-site operation of transportation-related noise sources associated with the proposed development. This noise assessment addresses noise impacts by discussing the current noise environment, analyzing impacts associated with proposed land use including mobile-source noise, and evaluating construction equipment noise.

2.0 Existing Conditions

2.1 Noise Definitions

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Typical human hearing can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA are detectable under quiet, controlled conditions, and changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is discernable to most people in an exterior environment while a change of 10 dBA is perceived as a doubling (or halving) of the noise.
The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are “felt” more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

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 many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

2.2 Noise Measurement Scales

Several rating scales (or noise “metrics”) exist to analyze adverse effects of noise, including traffic-generated noise, on a community. These scales include the equivalent noise level (Leq), the community noise equivalent level (CNEL), and the day-night noise level (Ldn). Leq is a measurement of the sound energy level averaged over a specified time period (usually 1 hour). Leq represents the amount of variable sound energy received by a receptor over a time interval in a single numerical value. For example, a 1-hour Leq noise level measurement represents the average amount of acoustic energy that occurred in that hour.

Unlike the Leq metric, the CNEL noise metric is based on 24 hours of measurement. CNEL also differs from Leq in that it applies a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance is of particular concern). Noise occurring during the daytime period (7:00 A.M. to 7:00 P.M.) receives no penalty. Noise produced during the evening time period (7:00 P.M. to 10:00 P.M.) is penalized by 5 dBA, while nighttime (10:00 P.M. to 7:00 A.M.) noise is penalized by 10 dBA.

The Ldn noise metric is similar to the CNEL metric except that the period from 7:00 P.M. to 10:00 P.M. receives no penalty. Both the CNEL and Ldn metrics yield approximately the same 24-hour value (within about 0.5 dBA) with the CNEL being the more restrictive (i.e., its calculation results in the higher value of the two).
2.3 Vibration Fundamentals

Vibration is a trembling, quivering, or oscillating motion of the earth. Like noise, vibration is transmitted in waves, but in this case through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard.

Vibration can be either natural as in the form of earthquakes, volcanic eruptions, sea waves, landslides, etc., or man-made as from explosions, the action of heavy machinery or heavy vehicles such as trucks or trains. Both natural and man-made vibration may be continuous such as from operating machinery, or transient as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized in three ways including displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position and for the purposes of soil displacement is typically measured in inches or millimeters. Particle velocity is the rate of speed at which soil particles move in inches per second or millimeters per second. Particle acceleration is the rate of change in velocity with respect to time and is measured in inches per second per second or millimeters per second per second. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Table 1 presents the human reaction and effects on buildings exposed to various levels of continuous vibration.

<table>
<thead>
<tr>
<th>Vibration Level</th>
<th>Human Reaction</th>
<th>Effect on Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Particle Velocity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(inches/second)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.006 - 0.019</td>
<td>Threshold of perception, possibility of intrusion</td>
<td>Vibrations unlikely to cause damage of any type</td>
</tr>
<tr>
<td>0.08</td>
<td>Vibrations readily perceptible</td>
<td>Recommended upper level of vibration to which ruins and ancient monuments should be subjected</td>
</tr>
<tr>
<td>0.10</td>
<td>Level at which continuous vibration begins to annoy people.</td>
<td>Virtually no risk of “architectural” damage to normal buildings</td>
</tr>
<tr>
<td>0.20</td>
<td>Vibrations annoying to people in buildings.</td>
<td>Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings</td>
</tr>
<tr>
<td>0.4 – 0.6</td>
<td>Vibrations considered unpleasant by people subjected to continuous</td>
<td>Vibrations at a greater level than normally expected from traffic, but</td>
</tr>
</tbody>
</table>
### Table 1: Vibration Level Peak Particle Velocity and Human Reaction and Effect on Buildings

<table>
<thead>
<tr>
<th>Vibration Level Peak Particle Velocity (inches/second)</th>
<th>Human Reaction</th>
<th>Effect on Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vibrations and unacceptable to some people walking by bridges</td>
<td>would cause &quot;architectural&quot; damage and possibly minor structural damage</td>
</tr>
</tbody>
</table>

Source: Caltrans 2002.

Vibrations also vary in frequency and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies. However, due to their suspension systems, city buses often generate frequencies around 3 Hz at high vehicle speeds. It is more uncommon, but possible, to measure traffic frequencies above 30 Hz.

The way in which vibration is transmitted through the earth is called propagation. Propagation of earth borne vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation; surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground’s surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a “push-pull” fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or “side-to-side and perpendicular to the direction of propagation.”

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

### 2.4 Regulatory Background

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.
Federal Government

Occupational Health and Safety

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the USEPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility’s Health and Safety Plan. The construction of the project will be subject to these OSHA limitations and all workers would receive appropriate training, hearing protection, and breaks, accordingly, ensuring that they are not exposed to harmful noise levels.

Housing and Urban Development

The US Department of Housing and Urban Development (HUD) has set a goal of 45 dBA Ldn as a desirable maximum interior standard for residential units developed under HUD funding. This level is also generally accepted within the State of California. While HUD does not specify acceptable exterior noise levels, standard construction of residential dwellings constructed under Title 24 standards typically provides over 20 dBA of attenuation with the windows closed. Based on this premise, the exterior Ldn should not exceed 65 dBA.

State of California

The California Office of Noise Control has set acceptable noise limits for sensitive uses. Sensitive-type land uses, such as homes and schools, are “normally acceptable” in exterior noise environments up to 65 dBA CNEL and “conditionally acceptable” in areas up to 70 dBA CNEL. A “conditionally acceptable” designation implies that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use type is made and needed noise insulation features are incorporated in the design. By comparison, a “normally acceptable” designation indicates that standard construction can occur with no special noise reduction requirements.

Applicable interior standards for new multi-family dwellings are governed by Title 24 of the California Administrative Code. These standards require that acoustical studies be performed prior to construction in areas that exceed 60 dBA Ldn. Such studies are required to establish measures that will limit interior noise to no more than 45 dBA Ldn and this level has been applied to many communities in California.
City of Downey

The Noise Element is included as Chapter 6 of the General Plan, Downey Vision 2025 and provides noise-related, land use compatibility guidelines (Figure 1). The goals of the Noise Element are to:

- Protect persons from exposure to excessive noise,
- Protect persons from exposure to excessive noise generated by various modes of transportation, and
- Minimize noise impacts on noise-sensitive land uses.

**Acceptable levels of noise presented in the Noise Element are included below in Table 2.**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Interior</th>
<th>Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>45 dBA and below</td>
<td>60 dBA and below</td>
</tr>
<tr>
<td>Schools, parks, and other non-residential,</td>
<td>45 dBA and below</td>
<td>60 dBA and below</td>
</tr>
<tr>
<td>noise-sensitive land uses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>65</td>
<td>-</td>
</tr>
<tr>
<td>Industrial</td>
<td>70</td>
<td>-</td>
</tr>
</tbody>
</table>

All noise levels are CNEL

Interior noise levels based on windows closed.

Exterior areas for residential limited to rear yards of single family uses, and patios/balconies and common recreational areas of multiple family uses. Exterior areas for schools limited to playground areas, picnic areas, and other areas of frequent human use.
## CITY OF DOWNEY COMMUNITY NOISE STANDARDS

### DOWNNEY VISION 2025

#### CHAPTER 6. NOISE

## FIGURE 6-12

**NOISE/LAND USE COMBATIBILITY MATRIX**

<table>
<thead>
<tr>
<th>LAND USE CATEGORY</th>
<th>COMMUNITY NOISE EXPOSURE LEVEL Ldn or CNEL, dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential-Low Density</td>
<td>55</td>
</tr>
<tr>
<td>Single Family, Duplex, Mobile Homes</td>
<td></td>
</tr>
<tr>
<td>Residential-Multiple Family</td>
<td></td>
</tr>
<tr>
<td>Transient Lodging-Motels, Hotels</td>
<td></td>
</tr>
<tr>
<td>Schools, Libraries, Churches, Hospitals, Nursing Homes</td>
<td></td>
</tr>
<tr>
<td>Auditoriums, Concert Halls, Amphitheaters</td>
<td></td>
</tr>
<tr>
<td>Sports Arena, Outdoor Spectator Sports</td>
<td></td>
</tr>
<tr>
<td>Playgrounds, Neighborhood Parks</td>
<td></td>
</tr>
<tr>
<td>Golf Courses, Riding Stables, Water Recreation, Cemeteries</td>
<td></td>
</tr>
<tr>
<td>Office Buildings, Businesses, Commercial, and Professional</td>
<td></td>
</tr>
<tr>
<td>Industrial, Manufacturing, Utilities, Agriculture</td>
<td></td>
</tr>
</tbody>
</table>

- **Normally Acceptable:** Specified land use is satisfactory based upon the assumption that any buildings involved are of normal construction, size, and number of windows, without any special noise insulation requirements.
- **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise insulation requirements is made and needed noise insulation features included in the design. Construction, use, and occupancy will normally exceed those of adjacent buildings, but with suitable materials, sources, or design, noise levels will normally be acceptable.
- **Clearly Unacceptable:** New construction or development should generally not be undertaken. Construction will normally exceed those of adjacent buildings, and overall noise level will not be acceptable.

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 примечание: off image/office or noise control

ADOPTED 1-25-2005
The goals of the General Plan Noise Element are administered through the City Municipal Code. Noise is addressed in the Municipal Code under Article 4, Public Welfare, Morals, and Policy, Chapter 6, Unnecessary Noises, Section 4600, Noises. Section 4606.3, Maximum Permissible Noise Levels by Sound Sources Across Property Boundaries, carries the following limitations:

(a) All activities to which this chapter is applicable shall be conducted in such a manner that any noise produced shall not create a disturbance. The maximum permissible sound pressure level measured at the property boundary of any land use in Subsection (b) of this section from any noise source not operating on a public right-of-way shall constitute prima facie evidence of a public nuisance when such noise level exceeds five (5) db(A) above the ambient noise level at any period during the course of a twenty-four (24) hour day.

(b) If the alleged noise source is of a continuous nature and cannot reasonably be discontinued for a time period wherein the ambient noise level can be determined, the maximum permissible steady noise level by sound sources across the property boundary of any land use cited below may be less, but not greater than:

(c) If any parcel of real property is developed and used for multiple land uses, the lower land use noise level standard shall apply.

(d) In the hours between 7:00 a.m. to 10:00 p.m., the noise levels permitted in Subsection (b) of this section may be adjusted by the inclusion of the following factors when applicable:

   (1) Noise source operated 12 minutes per hour or less + 5 db(A)
   (2) Noise source operated 3 minutes per hour or less + 10 db(A)
   (3) Noise source operated 1 minute per hour or less + 15 db(A)

(e) Impulsive sounds, pure tone, or sounds with a cyclically varying amplitude shall be considered a public nuisance when such noises are at a sound pressure level of five (5) db(A) less than those listed in Subsection (b) of this section, with the inclusion of the corrective factors listed in Subsection (d) of this section, when applicable. (Added by Ord. 508, adopted 6-22-76; amended by Ord. 551, adopted 7-25-78)

The City recognizes that construction is a necessity and difficult to control so sets provisions specific to its performance when in proximity to noise sensitive areas. Section 4600.2. Noises: Equipment and Machinery, includes these requirements:

(a) No person shall use, operate, or permit to be used or operated within any R-1, R-2, or R-3 Zone, as defined in Chapter 1 of Article IX of this code, any power tool, machine, or equipment, or any other tool, machine, or equipment, between the hours of 10:00 p.m. and 7:00 a.m. in such a manner that the noise therefrom disturbs or interferes with the peace, comfort, or welfare of the neighboring inhabitants.
(b) No person shall use, operate, or permit to be used or operated within any commercial (C) or manufacturing (M) Zone, as defined in Chapter 1 of Article IX of this code, which is within three hundred (300’) feet of a residential use, any power tool, machine, or equipment, or any other tool, machine, or equipment, between the hours of 10:00 p.m. and 7:00 a.m. in such a manner that the noise therefrom disturbs or interferes with the peace, comfort, or welfare of the neighboring residential inhabitants. (Added by Ord. 323, adopted 12-12-66; renumbered by Ord. 393, adopted 4-12-71; amended by Ord. 508, adopted 6-22-76; amended by Ord. 08-1225, adopted 2-12-08)

Section 4606.5, Construction Projects, notes:

Construction, repair or remodeling equipment and devices and other related construction noise sources shall be exempted from the provisions of this chapter provided a valid permit for such construction, repair, or remodeling shall have been obtained from the City. In any circumstance other than emergency work, no repair or remodeling shall take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day, and no repair or remodeling shall exceed eighty-five (85) db(A) across any property boundary at any time during the course of a twenty-four (24) hour day. (Added by Ord. 508, adopted 6-22-76)

2.5 Existing Noise Environment

Field Measurements

The project site is located within the existing parking lots of the LACOE facilities located at 12830 Columbia Way and in the parking lot and on the roof at 9300 Imperial Highway within the City of Downey. Generally, the facilities are located east of Clark Avenue, north of the I-105 Freeway, and south of Imperial Highway. The parcels are currently paved with asphalt.

The project includes the construction and operation of solar panel-covered carports and the placement of solar panels on the existing roof. The project is to be placed in the LACOE parking lots and on structures that are not noise sensitive in nature. The nearest residential neighborhood units located to the west are immediately along Columbus Way, north of Adoree Street, at a distance of about 90 feet from the project site curbline. There are also single-family residential units located east of Ardis Avenue at Adoree, Borson, and Dalen Streets. The nearest of these units (on the corners), are at a distance of about 65 feet from the western Ardis Avenue curb line. Homes are also located along Dalen Street at a distance of about 55 feet from the southern border of the 9300 Imperial Highway facility. Finally, the Kaiser Permanente Hospital is located
across Imperial Highway from this same facility. The road has a curb-to-curb width of approximately 94 feet, and the hospital structure is set approximately 300 feet back from the road.

A field survey was conducted on Tuesday, February 18, 2014 to determine ambient noise levels in the project area. The study included four noise readings all taken at the site as proximate to the adjoining sensitive land uses as feasible.

During the study, noise monitoring was conducted using a Quest Technologies Model 2900 Type 2 Integrating/logging Sound Level Meter. The unit meets the American National Standards Institute Standard S1.4-1983 for Type 2, International Electrotechnical Commission Standard 651-1979 for Type 2, and International Electrotechnical Commission Standard 651-1979 for Type 2 sound level meters. The unit was field calibrated using a Quest Technologies QC-10 calibrator immediately prior to the first set of readings. The calibration unit meets the requirements of the American National Standards Institute Standard S1.4-1984 and the International Electrotechnical Commission Standard 942: 1988 for Class 1 equipment. The accuracies of the meter and calibrator are maintained through a program established through the manufacturer and traceable to the National Bureau of Standards. The calibration of the meter was rechecked at 12:25 P.M. after the final reading and no meter "drift" was noted. All obtained noise level measurements are included in Table 3. Monitoring locations are shown in Figure 2.

Table 3
NOISE LEVEL MEASUREMENTS\(^1\)

<table>
<thead>
<tr>
<th>Monitoring Location</th>
<th>(L_{eq}) (dBA)</th>
<th>(L_{02}) (dBA)</th>
<th>(L_{08}) (dBA)</th>
<th>(L_{25}) (dBA)</th>
<th>(L_{50}) (dBA)</th>
<th>(L_{min}) (dBA)</th>
<th>(L_{max}) (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR-1</td>
<td>62.2</td>
<td>67.9</td>
<td>65.2</td>
<td>62.5</td>
<td>60.2</td>
<td>54.5</td>
<td>78.5</td>
</tr>
<tr>
<td>NR-2</td>
<td>57.0</td>
<td>61.6</td>
<td>59.5</td>
<td>57.3</td>
<td>56.2</td>
<td>53.0</td>
<td>65.1</td>
</tr>
<tr>
<td>NR-3</td>
<td>63.2</td>
<td>71.0</td>
<td>65.7</td>
<td>61.4</td>
<td>57.1</td>
<td>50.0</td>
<td>83.8</td>
</tr>
<tr>
<td>NR-4</td>
<td>66.1</td>
<td>71.7</td>
<td>70.4</td>
<td>67.5</td>
<td>64.3</td>
<td>51.2</td>
<td>75.7</td>
</tr>
</tbody>
</table>

\(^1\) The \(L_{eq}\) represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The \(L_{02}\), \(L_{08}\), \(L_{25}\), and \(L_{50}\) are the levels that are exceeded 2, 8, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 5, 15, and 30 minutes during a 1-hour period if the readings were extrapolated out to an hour’s duration. The \(L_{min}\) and \(L_{max}\) represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second during the measurement.
The results of the field study are summarized below. Note that all measurements included simultaneous vehicle counts for the adjacent streets. These counts, taken as a matter of course during the noise measurements, are typically used in the modeling prediction for long-term, project-generated traffic noise increases. However, once completed, except for occasional maintenance activities, this project would not draw additional vehicles to the site, so no such modeling is necessary for this case.

**NR-1**
This reading was taken at the project site along Columbus Way/Clark Avenue. Specifically, the meter was located along the east side of the street, 65 feet north of the Adoree Street curb line, and 35 feet east of the centerline of travel for the near, northbound lane. The road has a width of about 65 feet and the homes have a setback
of about 25 feet from the curb line. Noise in this location approximates that at the nearest homes located along Adoree Street and Columbus Way. The 15-minute reading was taken from 10:43 A.M. The freeway sits at a lower level than the site, and freeway traffic was not visible from the metered location. The dominant source of noise was from local traffic including vehicles on Columbus Way and the I-105 Freeway. During this period 67 autos, one medium truck, and one heavy truck proceeded northbound while 72 autos and three medium trucks went southbound along Columbus Way.

NR-2

This reading was obtained along the west side of Ardis Avenue at the residential neighborhood to the east of the project site. Specifically, the meter was placed over the planted strip across from the front lawn at 9402 Borson Street. The roadway has a width of about 41 feet, with an additional approximately 25 feet to the near structures. The 15-minute reading started at 11:11 A.M. The primary sources of noise were from background traffic on the freeway, aircraft, and passing vehicles including nine autos and one medium truck proceeding north and 14 autos heading south along Ardis Avenue.

NR-3

This reading was taken at the east parking lot entrance along Dalen Street. The meter was located over the dirt strip between the entrance and near parking space at a distance of 18 feet from the northern curb line. The road is unlined with a width of about 45 feet. The homes along Borson Street that back-up to Dalen Street would appear to be set at a slightly lower grade with about a 10-foot set-back to the near unit structures. The 15-minute reading began at 11:35 A.M.

Kaiser Permanente accepts deliveries at the facility to the immediate east and the dominant sources of noise were from operations at the truck depot including the unloading of a roll-off bin. Traffic along Dalen Street included 21 autos, one medium truck, and one heavy truck going eastbound, and 15 autos, one medium truck, and one heavy truck proceeding westbound. Aircraft noise and barking dogs in the neighborhood were also noted.

NR-4

This reading was obtained in the northeast parking lot along Imperial Highway. The meter was located over the dirt strip at the north end of the middle row of parked vehicles placing it approximately 43 feet from the Imperial Highway eastbound curb line. In this location, Imperial Highway has a curb-to-curb width of about 94 feet. Vehicles traveling along Imperial Highway were the dominant source of noise, though aircraft were also noted. Traffic along Imperial Highway included 191 autos, seven medium
trucks, and three heavy truck going eastbound, and 248 autos, five medium trucks, and one heavy truck proceeding westbound.

2.6 Sensitive Receptors

Some land uses are considered more sensitive to noise than others due to the types of population groups or activities involved. Sensitive receptors include residential areas and other sensitive land uses including any private or public school, hospital, residential care facility for the elderly, and religious institutions.

The project includes the construction and operation of solar panel-covered carports. The project is to be placed in the LACOE parking lots that are not noise sensitive in nature. The nearest residential neighborhood units located to the west are immediately along Columbus Way, north of Adoree Street, at a distance of about 90 feet from the site’s curbline. There are also single-family residential units east of Ardis Avenue at Adoree, Borson, and Dalen Streets. The nearest of these units (on the corners), are at a distance of about 65 feet from the western Ardis Avenue curb line. Homes are also located along Dalen Street at a distance of about 55 feet from the southern border of the 9300 Imperial Highway facility. Finally, the Kaiser Permanente Hospital is located across Imperial Highway from this same facility. The road has a curb-to-curb width of approximately 94 feet, and the hospital structure is set back approximately 300 feet from the road.

3.0 Thresholds of Significance

The City of Downey sets a standard for single-family dwellings of 50 – 60 dBA CNEL as “normally acceptable” and 55 – 70 dBA CNEL as “conditionally acceptable.” Hospitals are “normally acceptable” up to 70 dBA CNEL. Commercial uses, including the existing land use, are also “normally acceptable” up to 70 dBA CNEL.

With respect to projected increases, noise impacts can be broken down into three categories. The first is “audible” impacts, which refers to increases in noise level that are perceptible to humans. Audible increases in noise levels generally refer to a change of 3 dBA or more since this level has been found to be barely perceptible in exterior environments. The second category, “potentially audible,” refers to a change in noise level between 1 and 3 dBA. This range of noise levels was found to be noticeable to sensitive people in laboratory environments. The last category includes changes in noise level of less than 1 dBA that are typically “inaudible” to the human ear except under quiet conditions in controlled environments. Only “audible” changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant.
For stationary sources, the applicable noise standards include criteria established by local as well as any State regulations applicable to the proposed project. Mobile-source noise (i.e., vehicle noise) is preempted from local regulation but is still subject to CEQA review using threshold values for the level of increase for a significant noise impact.

3.1 **State CEQA Guidelines**

In order to assist in determining whether a project will have a significant effect on the environment, the CEQA Guidelines identify criteria that may be deemed to constitute a substantial or potentially substantial adverse change in physical conditions. According to Appendix G of the CEQA Guidelines, a project will normally have a significant adverse environmental impact on noise if the following apply:

- Would the project result in 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?
- Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?
- Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- 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?
- 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?

4.0 **Environmental Impacts**

The generation of noise associated with the proposed project would occur over the short-term for site construction activities. Once operational, the project would not generate additional traffic, except for occasional maintenance trips, and would not increase the noise levels along site access routes. Additionally, the solar collection system operates without any audible sound to the surrounding area. Both short-term and long-term noise impacts associated with the project are examined in this analysis. For ease of the reader, the included analysis follows the outline of the CEQA Checklist.
4.1 Project Potential for 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 Stationary source impacts are typically due to noise generated from on-site equipment. However, the solar panels operate without sound. Therefore, they would not produce noise in excess of local ordinance levels and any potential impact is less than significant.

4.2 Project Potential to Result in Exposure of Persons to or Generation of Excessive Ground Borne Vibration or Ground Borne Noise Levels

Less than Significant Impact The City of Downey does not set quantitative standards for vibration impact. With respect to construction, Caltrans notes that ground borne vibration is typically associated with blasting operations, the use of pile drivers, and large-scale demolition activities, none of which are anticipated for the construction or operation of the project and any potential impacts of the project on off-site receptors are less than significant.

4.3 Project Potential to Result in a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project

Road Noise

Less than Significant Impact Long-term impacts could be significant if the project creates activity or generates a volume of traffic that would substantially raise the ambient noise levels. As discussed above, a substantial increase is defined as 3 dBA CNEL. However, with the exception of occasional maintenance activities, the solar panels and carports do not generate new vehicle trips so would not result in increased noise along site access routes.

Stationary Source Noise

Less than Significant Impact As discussed above, the solar panels operate without noise so would not result in a permanent increase in noise at any sensitive locations proximate to the project site and the impact is less than significant.
4.4 Project Potential to Result in a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project

Less than Significant Impact Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. However, any increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

The second type of impact is related to noise generated by on-site construction operations and existing local residents would be subject to elevated noise levels due to the operation of on-site construction equipment. Construction activities are typically carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 4 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Average Sound Levels Measured (dBA at 50 feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pile Drivers</td>
<td>101</td>
</tr>
<tr>
<td>Rock Drills</td>
<td>98</td>
</tr>
<tr>
<td>Jack Hammers</td>
<td>88</td>
</tr>
<tr>
<td>Pneumatic Tools</td>
<td>85</td>
</tr>
<tr>
<td>Pumps</td>
<td>76</td>
</tr>
<tr>
<td>Dozers</td>
<td>80</td>
</tr>
<tr>
<td>Front-End Loaders</td>
<td>79</td>
</tr>
<tr>
<td>Hydraulic Backhoe</td>
<td>85</td>
</tr>
<tr>
<td>Hydraulic Excavators</td>
<td>82</td>
</tr>
<tr>
<td>Graders</td>
<td>85</td>
</tr>
<tr>
<td>Air Compressors</td>
<td>81</td>
</tr>
<tr>
<td>Trucks</td>
<td>91</td>
</tr>
</tbody>
</table>

Noise ranges have been found to be similar during all phases of construction, although the actual construction of the structures tends to be somewhat less than that from grading. The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.). Typical operating cycles may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction of structures is somewhat reduced from this value and the physical presence of the structure may break up line-of-sight noise propagation.

Composite construction noise is best characterized by Bolt, Beranek, and Newman (USEPA December 31, 1971). In their study, construction noise for earthwork and finish-work related to “public works” type projects is presented as 88 dBA Leq when measured at a distance of 50 feet from the construction effort. This value takes into account both the number of pieces and spacing of the heavy equipment used in the construction effort. Noise levels are typically reduced from this value and as they are placed, the physical structures further break up line of sight noise. However, as a worst-case scenario, the 88-dBA-value is used to assess the impact of construction.

The operation of such equipment would result in the generation of both steady and episodic noise significantly above the ambient levels currently experienced near the project site. The noise produced from construction decreases at a rate of approximately 6 dBA per doubling of distance. Therefore, at 100 feet the noise levels would be about 6 dBA less or 82 dBA Leq. Similarly, at 200 feet, the noise levels would be 12 dBA less or 76 dBA Leq.

The residents located across Columbus Way near Adoree and those along Adris could be on the order of 100 feet away from the most proximate construction at the 12830 Columbia Way facility. At this distance, noise levels could reach 82 dBA Leq. Construction at the south side of the 9300 Imperial Highway location could also be as close as about 100 feet to the proximate residents that back-up to Dalen Street with noise levels projected as high as 82 dBA Leq. Actual levels at the residents would be somewhat reduced because these residents are shielded by a wall that blocks noise created along Dalen Street and at the Kaiser Permanente receiving terminal. Finally, at approximately 400 feet, noise at the Kaiser Permanente hospital across Imperial Highway would be projected at 70 dBA Leq.
As noted, the City recognizes that construction noise sources are necessary and difficult to control and provides exemptions. The provisions for noise limits shall not be applied to construction, for which a valid building permit has been issued, between the hour of 7:00 A.M. and 10:00 P.M.

Moreover, during the vast majority of the construction period, noise levels at the proximate residents would be considerably lower due to the smaller equipment appropriate to the limited construction at hand, lower power settings, and sound attenuation provided by longer distances. In light of the area (e.g., the proximate freeway and terminal operations at the Kaiser receiving facility), this range of noise levels is typically considered acceptable during daytime hours and less than significant so long as the Applicant abides by the City mandated hours for construction activities, as required, and the impact is less than significant.

4.5 Project Potential to Expose People Residing or Working in the Project Area to Excessive Noise Levels From a Public Airport or Public Use Airport

Less than Significant Impact The Compton/Woodley airport is located along Alondra Boulevard between Central Avenue and Wilmington Avenue approximately 5.7 miles to the southwest while Long Beach Airport lies about 6 miles to the south. While aircraft noise was noted in the field survey, the project is not in the direct flight path and well beyond the airports’ 60 dBA CNEL zones. No significant impacts would result from the implementation of the proposed project.

4.6 Project Potential to Expose People Residing or Working in the Project Area to Excessive Noise Levels From a Private Airstrip

Less than Significant Impact At about 3 miles to the east, the Southeast Superior Court heliport represents the closest private use air facility. The project site is not in the facility’s 60-dBA CNEL noise contour and no significant impacts would result from the implementation of the proposed project.

5.0 References

Caltrans, Transportation Related Earthborne Vibrations, February 20, 2002
City of Downey, General Plan, Downey Vision 2025, January 25, 2005
City of Downey, Municipal Code (Online), February 2014
Department of Transportation, Transit Noise and Vibration Impact Assessment, Final Report, April 1995