Draft
Initial Study/Mitigated Negative Declaration

for

Los Angeles International Airport (LAX)
Southwest Remain Overnight (RON) Apron Project

City of Los Angeles
Los Angeles City File No. NG-11-025-AD

February 2011

LAX
Los Angeles World Airports

Table of Contents

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CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 615, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

INITIAL STUDY AND CHECKLIST

(Article IV City CEQA Guidelines)

LEAD CITY AGENCY	COUNCIL DISTRICT	DATE
Los Angeles World Airports	Council District 11	February 7, 2011

RESPONSIBLE AGENCIES

PROJECT TITLE/NO.	CASE NO.
Los Angeles International Airport (LAX) Southwest Remain Overnight (RON) Apron	NG-11-025-AD

PREVIOUS ACTIONS CASE NO.	
Indirectly related--Los Angeles International Airport Master Plan Case No. CF-00-1774-S4 and CPC 2003-4647 GPA/ZC/CA/MPR LAX Master Plan EIR (SCH#1997061047)	☐ **DOES have significant changes from previous actions.** ☐ **DOES NOT have significant changes from previous actions.**

PROJECT DESCRIPTION:

The proposed Project involves the development of an 18-acre concrete pad (i.e., "apron" area) in the southwest portion of LAX; specifically, in the area immediately southwest of where Taxiway AA crosses over World Way West. The subject site occupies the eastern quarter (approximate) of the LAX West Construction Staging Area, which has been used for construction staging, storage, and parking for many years. The proposed Project facility would be used for aircraft to park overnight (i.e., Remain Overnight - "RON") or during the day (i.e., Remain All Day - "RAD"), and/or undergo light maintenance/servicing during the day. Development of the Project site for such uses would help replace the loss of former and current RON areas and aircraft maintenance areas affected by various airfield improvement projects such as the Crossfield Taxiway Project and the Bradley West Project.

The Southwest RON Apron would provide aircraft parking positions to accommodate up to four (4) Airplane Design Group (ADG) VI aircraft such as the Airbus A380, although the apron could also be used by a variety of smaller aircraft. Each parking position will be equipped with high-mast lighting, 400 Hertz (Hz) electrical power, infrastructure for electric Ground Service Equipment (GSE) charging stations, preconditioned air (i.e., cool or warm air routed to the interior of the aircraft), potable water, and a wash rack system (i.e., trench drains along the concrete surface that would capture runoff from the washing of aircraft and then filter the runoff for reuse; after several cycles of reuse, the runoff would be routed to the sanitary sewer). Aircraft access to and from the new RON would be via existing Taxiway AA directly east of the site. Please see Attachment A for a more detailed description of the proposed Project.

ENVIRONMENTAL SETTING:

The Project site is located in the southwest portion of LAX. The general environmental setting of LAX is characterized by highly urbanized development on the north, east, and south sides of the airport, with major transportation infrastructure (freeways and rail lines) to the east and south. A former residential area, now coastal dunes and El Segundo blue butterfly habitat, is located on the west side of the airport. The environmental setting around the Project site is generally characterized by LAX airfield uses such as runways, taxiways, aircraft apron areas, and aircraft maintenance areas to the north and east, and airport construction staging and storage (i.e., soils/aggregate stockpiles) to the west and south.

PROJECT LOCATION

The Project site is located in the southwest portion of LAX, generally south of World Way West, between Taxiway AA and Pershing Drive.

PLANNING DISTRICT	STATUS:
Los Angeles International Airport Specific Plan	☐ **PRELIMINARY** ☐ **PROPOSED** _____ ☒ **ADOPTED** **December 14, 2004**

EXISTING ZONING	MAX. DENSITY ZONING	
LAX - A Zone: Airport Airside Subarea		☒ **DOES CONFORM TO PLAN**
PLANNED LAND USE & ZONE Airport-related airfield uses	**MAX. DENSITY PLAN**	☐ **DOES NOT CONFORM TO PLAN**
SURROUNDING LAND USES North - Road (World Way West) and LAWA Police Canine Run Area East - Airfield (Taxiway AA) South - Construction Storage/Stockpiles West - Construction Staging/Storage	**PROJECT DENSITY**	☐ **NO DISTRICT PLAN**

☞ **DETERMINATION (To be completed by Lead Agency)**

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions on the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find 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 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.

	City Planner
SIGNATURE	**TITLE**

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 offsite 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 that 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 a mitigation measure has reduced an effect from "Potentially Significant Impact' to "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analysis," cross referenced).

5) Earlier analysis must 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:

    1) Earlier Analysis Used. Identify and state where they are available for review.
    2) 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.
    3) 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 sources 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 whichever format is selected.

9) The explanation of each issue should identify:
    1) The significance criteria or threshold, if any, used to evaluate each question; and
    2) The mitigation measure identified, if any, to reduce the impact to less than significance.

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

INITIAL STUDY CHECKLIST (To be completed by the Lead City Agency)

☞ **BACKGROUND**

PROPONENT NAME	**PHONE NUMBER***
Los Angeles World Airports	424-646-5180
PROPONENT ADDRESS	
1 World Way, Room 218, Los Angeles, CA 90045	
AGENCY REQUIRING CHECKLIST	**DATE SUBMITTED**
Los Angeles World Airports	February 7, 2011
PROPOSAL NAME (If Applicable)*	
Los Angeles International Airport (LAX) Southwest Remain Overnight (RON) Apron	

☞ ☐ **ENVIRONMENTAL IMPACTS** (Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, 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 the 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 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?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the South Coast Air Quality Management 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 air basin is non-attainment (ozone, carbon monoxide, PM10, and PM2.5) under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations 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 the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. 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 tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?	☐	☐	☐	☒
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?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA 15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
resource or site or unique geologic feature?				
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
VI. GEOLOGY AND SOILS. Would the project:				
a. Exposure of 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 Los Angeles Building Code (2002), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 the people residing or working in the 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?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere 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 land 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?	☐	☐	☒	☐
g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood plain structures which would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, inquiry or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with 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, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. 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?	☐	☐	☐	☒
XII. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise in level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Exposure of people 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	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
construction of replacement housing elsewhere?				
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other governmental services (including roads)?	☐	☐	☐	☒
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/CIRCULATION. 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 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?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES. 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 stormwater 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 resource, 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 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?	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Does the project have impacts which are individually limited, but cumulatively considerable?("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☒	☐
c. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

☞ ☐ **DISCUSSION OF THE ENVIRONMENTAL EVALUATION (Attach additional sheets if necessary)**

(See Attachment B)

ATTACHMENT A
PROJECT DESCRIPTION

1.0 PURPOSE OF INITIAL STUDY

The basic purpose of an Initial Study is to document whether a proposed project would have a significant impact on the environment in order to assist the lead agency in deciding whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration. An Initial Study may also enable an applicant or a lead agency to modify a project or mitigate potentially significant impacts such that an EIR need not be prepared.

Los Angeles World Airports (LAWA) has completed the following Initial Study for the proposed Southwest Remain Overnight (RON) Apron Project at Los Angeles International Airport (LAX) ("proposed Project") in accordance with the California Environmental Quality Act or CEQA (Section 21000 et seq., California Public Resources Code), implementing State CEQA Guidelines (Section 15000 et seq. Title 14, California Code of Regulations). The Initial Study for the proposed Project was prepared in accordance with the requirements set forth in Section 15063 of the State CEQA Guidelines. As determined in the Initial Study and as further described in Attachment B, Explanation of Checklist Determinations, there is no substantial evidence that the Project, with the incorporation of mitigation measures, would have a significant effect on the environment. Therefore, in accordance with Section 15070 of the State CEQA Guidelines, a Mitigated Negative Declaration is hereby proposed.

This Draft Initial Study/Mitigated Negative Declaration (IS/MND) will be circulated for review and comment by the public and other interested parties, agencies, and organizations for 20 days in accordance with Section 15073 of the CEQA Guidelines. All comments or questions about the Draft IS/MND should be addressed to the following individual:

Herb Glasgow, Chief of Airport Planning 1
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
(424) 646-5180

The Draft IS/MND for the proposed Project will be available for viewing on the LAWA website at www.ourlax.org - see "Projects-Publications." Comments may be submitted electronically via a link on the project website.

Upon completion of the public comment period, a Final IS/MND will be prepared that provides written responses to comments received on the Draft IS/MND. These comments and their responses will be included in the Final IS/MND for consideration by LAWA.

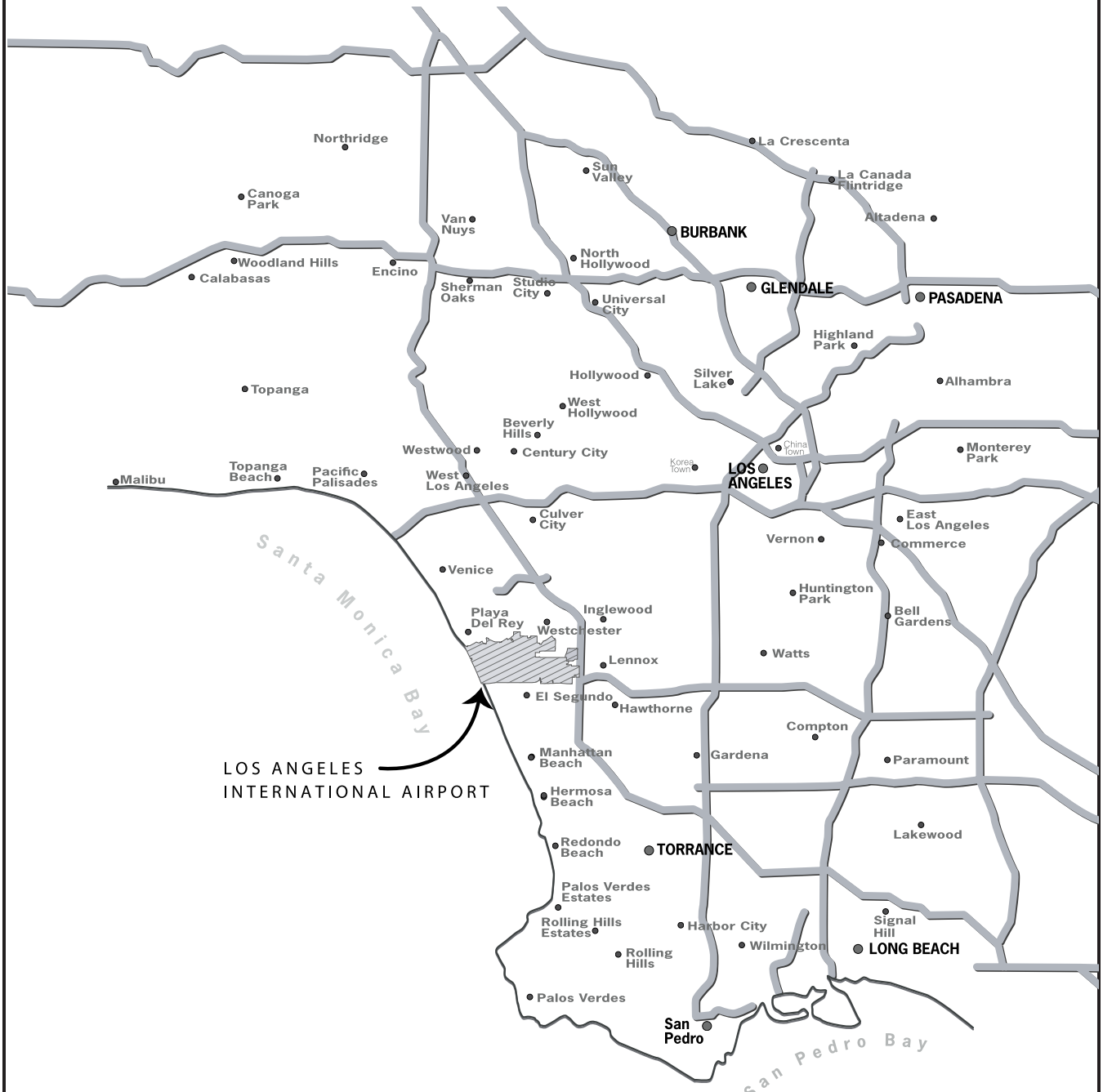
2.0 INTRODUCTION

The project being proposed by LAWA at LAX involves the development of an airfield facility that would be used for aircraft to park overnight (i.e., Remain Overnight - "RON") or during the day (i.e., Remain All Day - "RAD"), and/or undergo light maintenance/servicing during the day. Development of the Project site for such uses would help replace the loss of former and current RON areas and aircraft maintenance areas affected by various airfield improvement projects such as the Crossfield Taxiway Project and the Bradley West Project and would achieve certain environmental benefits not otherwise available within existing RON areas at LAX.

3.0 PROJECT LOCATION AND SURROUNDING USES

The Project site is located in the southwest portion of LAX. LAX encompasses approximately 3,640 acres and is situated at the western edge of the City of Los Angeles, as shown in Figure 1, Regional Location Map. To the north of LAX is the community of Westchester, to the south is the City of El Segundo, to the east is the City of Inglewood, and to the west is the Pacific Ocean. The predominant land uses surrounding LAX to the north and south are residential and commercial and to the east primarily commercial and industrial. Regional access to LAX is provided by the San Diego Freeway (Interstate 405), a north-south freeway located to the east of the airport, and the Century Freeway (Interstate 105), an east-west freeway located south of the airport. Major roadways serving LAX include Sepulveda Boulevard, Century Boulevard, Imperial Highway and Lincoln Boulevard.

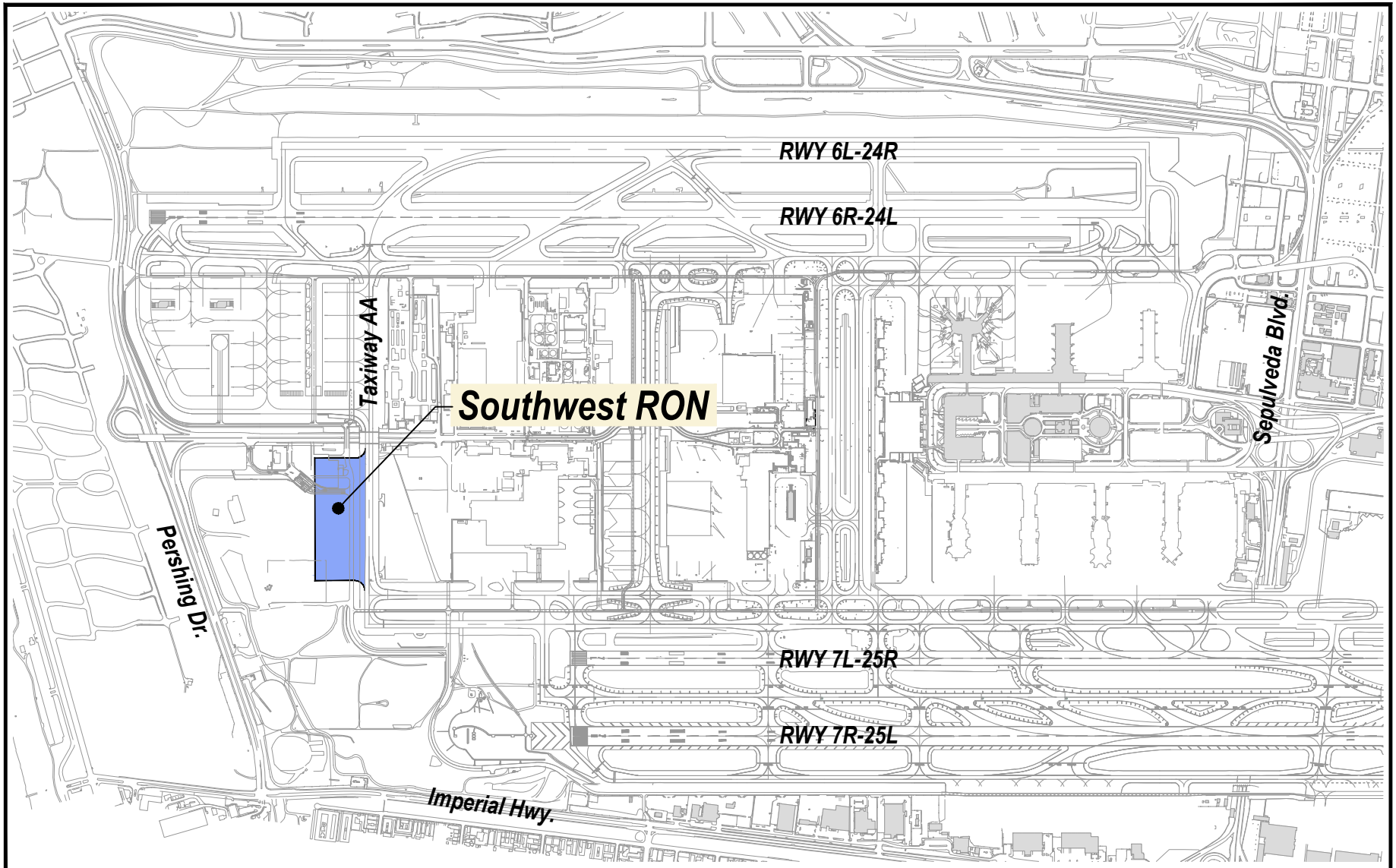
As shown in Figure 2, Project Location Map, the 18-acre Project site occupies the area immediately southwest of where Taxiway AA crosses over World Way West, approximately 1,000 feet east of Pershing Drive and 2,000 feet north of Imperial Highway. The current use of the Project site primarily includes vacant land and construction trailers/offices and staging for several development projects currently underway at LAX. The land use setting around the Project site is generally characterized by LAX airfield uses such as runways, taxiways, aircraft apron areas, and aircraft maintenance areas to the north and east, and airport construction staging and storage (i.e., soils/aggregate stockpiles) to the west and south. The Los Angeles International Airport Plan (LAX Plan), the City of Los Angeles General Plan Land Use Element that governs uses on LAX, designates the Project area as Airport Airside. The corresponding LAX Specific Plan also designates this area as LAX A Zone: Airport Airside Sub-Area.



north
Not to Scale

Prepared by: CDM, 2010.

LAX Southwest RON Initial Study	Regional Location Map	Figure 1



Source: ADG, 2010

LAX Southwest RON Initial Study	Project Location Map	Figure 2

4.0 STATEMENT OF PROJECT OBJECTIVES

The purpose of the Project is to improve the availability and quality of aircraft parking area at LAX, including as related to RON and RAD and to aircraft light maintenance area. More specifically, LAWA's objectives for the Project are to:

- Provide new apron area for aircraft RON, RAD, and light maintenance to help replace such uses at LAX that were removed or reduced in size in conjunction with other planned airfield improvements at LAX. While the replacement of those impacted uses can be partially accommodated at other existing apron and maintenance areas at LAX, the proposed development of the new Southwest RON Apron facility would help directly offset the loss of aircraft maintenance and parking areas, and, moreover, offers certain benefits and advantages relative to less congestion, more availability, easy access from Taxiway AA, which connects to both the north airfield and south airfield, and the ability to accommodate Airplane Design Group VI aircraft such as the Airbus A380.
- Provide for RON, RAD, and aircraft maintenance areas with built-in aircraft support infrastructure, such as 400 Hertz (Hz) electrical power, preconditioned air (i.e., to provide cool or warm air to the interior of the aircraft if/as needed during servicing/maintenance of the aircraft, instead of having to use the aircraft's engines/auxiliary power unit to provide such cooling or heating), water, and aircraft wash racks (i.e., trench drains at each aircraft parking position that would direct wash water to a recycling facility and then, after several cycles of reuse, drain to the sanitary sewer). These facilities would reduce the need for parked aircraft to use on-board auxiliary power units, and avoid the associated air pollutant emissions. They also support water use efficiencies. These and other improvements proposed as part of the Southwest RON, such as the storm water quality management system, would be built into the Project to provide permanent best management practices (BMPs) that do not exist, or occur to a lesser degree, within aircraft parking and maintenance areas elsewhere at the airport.
- Provide for efficiencies in the construction process by coordinating the location and development timing of the proposed Project with the phased use of the West Construction Staging Area. The West Construction Staging Area is utilized for construction staging, laydown, coordination (i.e., construction trailers/offices), and certain production activities such as rock crushing (i.e., crushing of demolished concrete and asphalt generated at LAX) and concrete production. As the initial construction phases of major projects at LAX are completed, such as for the Crossfield Taxiway Project and the Bradley West Project, the level of construction support occurring within the West Construction Staging Area is anticipated to diminish. The "freed-up" construction staging areas in the eastern portion of the West Construction Staging Area would become available for the development of the Southwest RON Apron Project. The close proximity of the Project site and the remaining West Construction Staging Area provides for substantial construction efficiencies and environmental benefits such as a substantial reduction in off-airport truck trips due to the presence of a nearby concrete batch plant and the local availability of crushed aggregate generated by previous projects.

Concrete and aggregate are the major construction materials associated with the Southwest RON Apron Project.

5.0 DESCRIPTION OF THE PROPOSED PROJECT[1]

5.1 Project Overview

The proposed Project entails the construction of a 1,260-foot long, 520-foot wide aircraft parking apron. The apron would be capable of accommodating four (4) Design Group VI aircraft such as the Airbus A380 or Boeing B747-8, although the apron would also be used by a variety of smaller aircraft models. It is expected that the new concrete apron area would tie into the existing west edge of Taxiway AA, and the usable aircraft parking area would begin at the west edge of the realigned vehicle service road serving Taxiway AA. Apron pavement would be Portland Cement Concrete (PCC). The existing alignment of the vehicle service road would be modified to provide a Design Group VI Object Free Area (OFA) for Taxiway AA, (i.e., the east edge of the realigned vehicle service road is separated 169 feet from the centerline of Taxiway AA). The width of the existing vehicle service road would be reduced to 30 feet.

Asphalt concrete shoulders with a width of 20 feet would be provided around the apron. The proposed pavement section for the RON apron is assumed to be the same as the pavement sections recently constructed for the Crossfield Taxiway Project, subject to confirmation by the Project designer. The pavement section for the RON apron is described as follows:

- 19 inches P-501 Portland Cement Concrete
- 12 inches P-306 Econocrete
- 6 inches Processed Miscellaneous Base (95 percent compaction)
- 24 inches prepared subgrade

The following facilities and equipment would also be included as part of the Southwest RON Apron Project:

- 400 Hz power to RON and RAD for aircraft maintenance, cargo loading and unloading
- High mast lighting at the RON
- Upgrade existing Southern California Edison (SCE) manholes to aircraft rating, capable of sustaining base wheel load of A380 aircraft loading
- Illuminated airfield apron signs
- Wash rack systems/recycling system
- Preconditioned air
- Potable water
- Pavement markings, including parking positions, lead-in lines, service roads and any reflectors deemed appropriate

[1] The description presented herein of specific improvements included in the proposed Project is based on concept design and engineering plans that are subject to refinement and modification during development of final plans and construction specifications. Such refinements and modifications are not, however, expected to substantially change the basic elements of the Project as related to the impacts analysis completed for the Initial Study.

5.2 Development Plan

Site Plan

The overall site plan, presented as Figure 3, shows the layout of the proposed apron area including four aircraft parking positions, RON kits (i.e., power, water, preconditioned air), and wash rack equipment. Parking positions are designated from 1 to 4, with Position 1 being the southernmost position. Each position would have three aircraft static grounding points near the nosewheel and body of the aircraft. A 20-foot wide asphalt concrete shoulder would be provided around the perimeter of the PCC RON apron pavement, which would be bordered by a graded slope to meet existing grade. Four flood lights are proposed along the west side of the apron. The existing alignment of the access road from Guard Post 21 would be retained which involves ramping the road from existing grade to the finished apron grade.

Grading Concept

The Southwest RON Apron is proposed to be sloped to the west at 0.5 percent grade downwards from Taxiway AA. Beyond the limits of the concrete RON apron, asphalt concrete shoulders would be provided at 2 percent with graded slopes joining the existing ground at 4:1 slope maximum.

Access of the airport needs to be maintained through Guard Post 21. The RON would include a ramp, which would traverse the footprint of the RON apron. The ramp would have a longitudinal slope of approximately 6 percent, and would have paved side-slopes of 2.5:1 maximum with erosion control pavement. Guard rail would be provided at the top of the side-slope to prevent vehicles and ground service equipment from inadvertently driving down the slope.

Earthwork Quantities

Preliminary earthwork quantities were calculated using the 2009 aerial topographic survey and the proposed finished grades assuming a pavement section of:

- 19 inches P-501 Portland Cement Concrete
- 12 inches P-306 Econocrete
- 6 inches Processed Miscellaneous Base
- 24 inches prepared subgrade

The earthwork quantities include the volume of previously stockpiled material that is to be removed from the site in order to develop the proposed Southwest RON Apron Project.

Summary of Raw Earthwork Volumes:

- Cut = 220,000 cubic yards
- Fill = 35,000 cubic yards
- Export = 185,000 cubic yards

Drainage Concept

Directly west of Taxiway AA, a swale with catch basins would drain surface water from Taxiway AA. The remaining areas of the RON apron would sheet flow at 0.5 percent to the new concrete curbs and catch basins within the westerly paved shoulders of the RON. There are no catch basins or low points

located underneath the RON positions and future taxi route into the West Maintenance Area. Catch basins within the concrete pavement would be A380 aircraft load rated, while catch basins in the apron shoulder would be HS20 vehicle (i.e., 36 ton) load rated.

Drainage systems for the Southwest RON Apron Project would have a total tributary area of 18.8 acres including portions of existing Taxiway AA. The northerly portion (4.9 acres) of the Project site would drain via curb and gutter to a new storm drain system that would connect to the existing reinforced concrete box (RCB) in World Way West. The 25-year peak discharge for this line would be 7.9 cubic feet per second (cfs).

Runoff from approximately 0.7 acre of the Project's tributary area would be collected on the ramp to Guard Post 21 and would be collected in existing drainage systems. No treatment is proposed for this area.

Runoff from the remaining 13.2 acres of the RON apron project area would be collected in a new storm drain system that would connect to the existing 54-inch diameter reinforced concrete pipe (RCP) that runs along the southerly boundary of the West Construction Staging Area site. This area is further subdivided into a subarea along the west side of Taxiway AA where a concrete swale would collect runoff from 4.2 acres and convey it to grated inlets and a new 24-inch diameter RCP storm drain. The 25-year peak discharge for this line is 4.8 cfs. This line would join another new 24-inch diameter RCP storm drain line that would run along the westerly edge of the RON apron where the proposed curb and gutter would collect runoff from the remaining 9 acres of the RON apron. The 25-year peak discharge for this line is 12.4 cfs. The combined peak discharge for this line is 15.2 cfs, assuming peak flows are offset. The two storm drain lines would be connected to the existing 54-inch RCP by a 30-inch RCP.

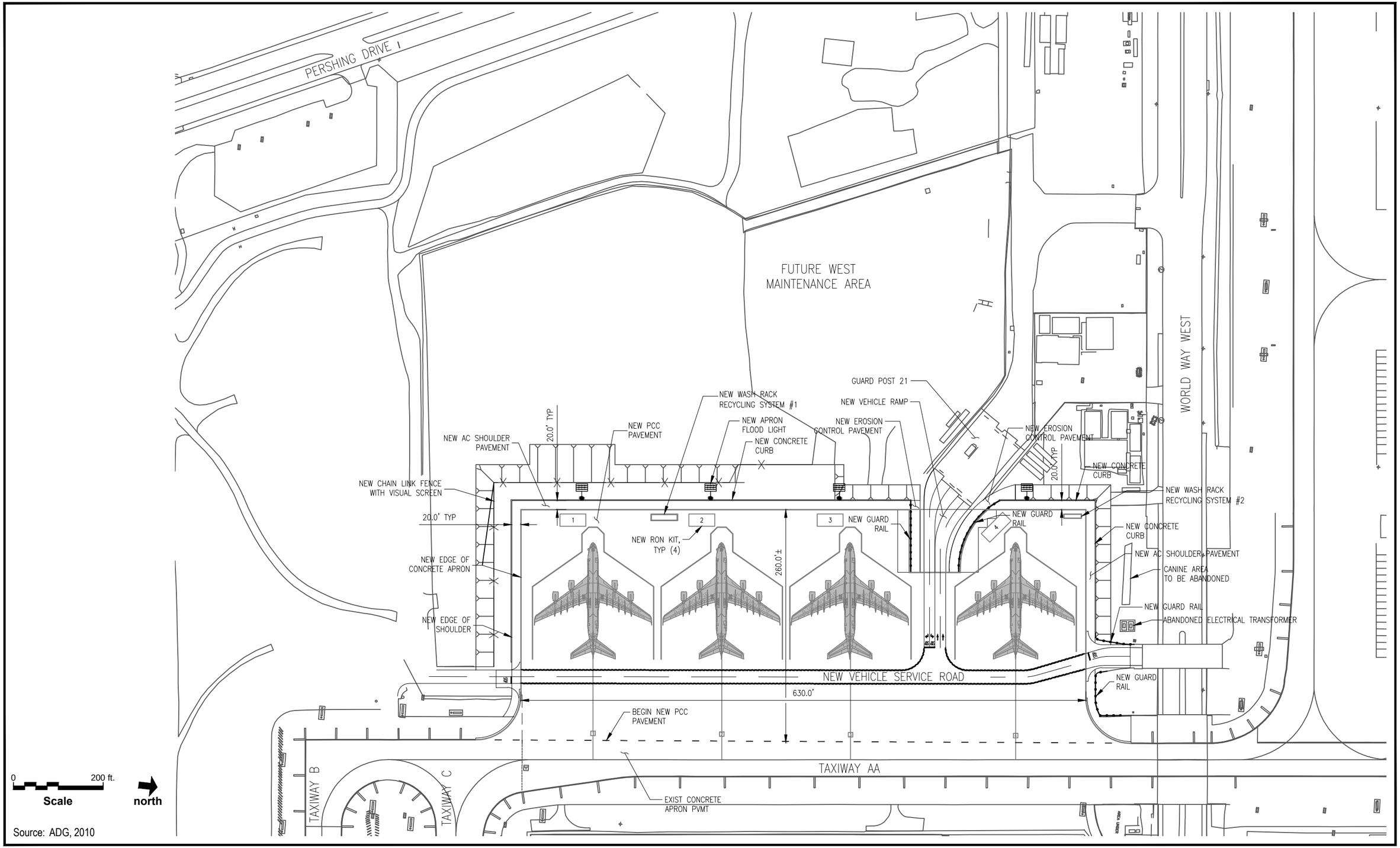
Both the north and south storm drains would each have an oil-water separator at the downstream end of the system to treat wash water from the RON apron. A valve would be provided to divert the wash water from the storm drain to the oil-water separator prior to recycling or discharge to the sewer line. Stormwater would be directed to either a media filter vault or an underground infiltration basin.

Utilities

Domestic Water System: Domestic water would be provided from an existing 12-inch diameter water line along World Way West. The water line is planned to be sized to service four A380 aircraft and the wash rack systems on the RON. A back-flow preventer would be provided off the mainline, if/as required.

Fire Protection System: Fire hydrants with gate valves are proposed on the westerly edge of the apron outside of the paved shoulder with spacing at approximately 315 feet. A back flow preventer would be provided off the main line, if/as required. Vehicle crash protection for the hydrants would be provided. The fire hydrants would be fed from an existing 24-inch diameter fire water line along World Way West.

Wash Rack Recycling System: The parking apron is planned to be equipped with a wash rack for aircraft washing capable of serving the Airbus 380. The system design would avoid wash water entering the stormwater drainage system. An oil/water separator would be included as a pretreatment system of wash water with a clarifier to recycle the wastewater for aircraft washing and eventually discharged into the sanitary sewer system. The system is designed to accept the runoff from aircraft washing which includes water, chemical detergent residue and various solids from the aircraft fuselage, undercarriage and



Source: ADG, 2010

LAX Southwest RON Initial Study	Overall Site Plan	Figure 3

engineers. The system is anticipated to be comprised of two main cleansing operations: 1) oil/water separator, and 2) recycling system which includes filtration. The system capacity is based on information used by design of the Crossfield Taxiway RON wash rack system from American Airlines and LAWA.

The recycling system would be connected at the downstream end of the storm drain system, and would consist of a motorized valve which would be normally closed due to any potential of rain. During rain events, water would not enter the oil/water separator or the recycling system, and be treated at the media filter vaults before being discharged into the existing storm drain system. When washing operations is active, the recycle unit would be switched "ON," and the motorized valve would open to allow the wash water runoff to flow to the oil/water separator which would remove hydrocarbons from the wash water. The treated water would then be pumped to the surface mounted recycling unit where it would be furthered clarified and stored for reuse. In addition, the recycle unit would include an air compressor to operate valves and other components at the washing stations. Service boxes located at each parking position would provide wash water and compressed air utility for equipment.

The wash water would be recycled three to six times before being discharged into the sanitary sewer system.

RON Kits: The parking apron is planned to be equipped with RON kits that provide ground power, preconditioned air and potable water to service parked aircraft. The kits would be sized and positioned to accommodate the possible range of aircraft using the apron up to and including the Airbus A380. The equipment would be fixed units and would be housed in above-ground cabinets, with cabinets provided for cable and PC air reels. The equipment would be protected by bollards or other suitable means to prevent accidental damage by ground service equipment and other vehicles operating on the apron.

400 Hz power stations would be located to accommodate multiple aircraft servicing positions. Service to each of the 400 Hz power stations would be made via a 480 volt (V) 1,000A 3-pole distribution panel board. The 400 Hz power station would be comprised of pad mounted fixed ground power 12 pulse unit 400 Hz dual output, solid state frequency converters, ground power cable and cable reel, and preconditioned air units. The power station would also be equipped with strut mounted 480V distribution switchboard, a 480-120/208V 3-phase 4 watt (W) transformer and a 120/208V 100 amp (A) 3-pole 42-circuit panel board similar to those installed on the Crossfield Taxiway Project.

Recharging stations for GSE are also planned to be installed on the RON.

Flood Lighting and Lighted Signs: High-mast apron lighting would be provided to illuminate the apron area in accordance with FAA and International Civil Aviation Organization (ICAO) standards. The flood lights would be located roughly five feet from the edge of shoulder within the 4:1 graded slope on the west edge of the apron. Glare shields would be provided as necessary and appropriate to minimize glare for pilots and the Airport Traffic Control Tower, and to direct lighting down onto the apron area, minimizing any light spillover to off-site areas.

Four 60-70 feet (maximum) high-mast lighting poles would be provided to match existing lights on the Crossfield Taxiway apron. High-mast light poles would be equipped with six 1,000W metal halide cutoff flood light fixtures. A lowering device integral to the pole would be provided to allow all fixtures to be lowered for luminaire maintenance and replacement. Overall pole heights are anticipated to include lightning protection and obstruction lighting of high-mast pole. The total number of high-mast poles, their exact locations and number of fixtures would be validated during development of detailed construction

plans using software to produce photometric calculations and output data that satisfy all lighting requirements.

Illuminated airfield apron signs would be used to delineate the location of the RON area. The size of signs would be made to match that of existing signs. The new illuminated signs would be served from existing adjacent taxiway circuits.

5.3 Construction

Construction of the proposed Southwest RON Apron Project is proposed to begin in late summer or early fall-2011 and take approximately one year to complete. Site development would begin with removal and demolition of gravel and partially paved surfaces in the northern portion of the site (i.e., vehicle parking areas for former construction office trailers) and along the eastern edge of the site (i.e., vehicle service road for Taxiway AA) followed by the grading of soil stockpiles that occur within the western portion of the site. The subject soils placed there in conjunction with other past construction projects at LAX and total approximately 185,000 cubic yards (CY). Depending on the results of a geotechnical/geophysical evaluation of the soil, it is anticipated that some portion would be reused at the airport as engineered fill, while the remaining material would be removed for off-airport reuse/disposal. It is anticipated that the removed soils would be either transferred to Continental City, a LAWA-owned property located approximately four miles east of the Project site, or trucked to an off-airport location within a 15-20 mile radius for reuse or disposal. After rough grading of the Project site, placement of underground utility lines would occur and then preparation of the apron subgrade/subbase, followed by the pouring and curing of Econocrete and then PCC.

The vast majority of aggregate to be used for base materials would come from LAX, specifically from the previous crushing/processing of demolished concrete and asphalt associated with other development projects at LAX. Similarly, the vast majority of concrete required to complete the SW RON Apron Project would come from an adjacent on-airport batch plant that provides concrete for multiple projects at LAX. These on-airport facilities serve to substantially reduce the amount of off-airport truck trips associated with construction activities.

Construction staging for the proposed Project is anticipated to occur on and/or immediately adjacent to the SW RON Apron site.

6.0 NECESSARY APPROVALS

Approvals required for the SW RON Apron Project may include, but not be limited to, the following:

- Adoption of a Mitigated Negative Declaration;
- Project approval by LAWA;
- Grading permits, and a Haul Route Plan by the City of Los Angeles Department of Building and Safety; and
- Any additional actions as may be determined necessary.

ATTACHMENT B
EXPLANATION OF CHECKLIST DETERMINATIONS

I. AESTHETICS. *Would the project*:

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

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?

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

a-c. Less Than Significant Impact. The Project site is a highly disturbed area mostly surrounded by airport uses. The site, along with areas to the west and south, is currently being used as a construction staging area and has no landscaping or other features of aesthetic value, nor is it located adjacent to or within the viewshed of a designated scenic highway or scenic vista. The Los Angeles/El Segundo Dunes are located to the west of the Project site, opposite Pershing Drive. The Project site is located at the western end of the airport, and visibility from off-site would primarily consist of fleeting views by travelers on Pershing Drive. The proposed Project would not obstruct any views of dunes, or other visual features, from sensitive viewshed locations. Further, construction activities at the Project site would be visually consistent with the current use of the site and surroundings as a construction staging area. Operation of the proposed Project would be consistent in visual character with existing airport-related uses, including the existing West Remote Pads/Gates located to the north and aircraft parking and maintenance activities at the Continental Airlines maintenance hangar/area beyond the American Airlines employee parking lot to the east. Thus, the proposed Project would be compatible with the existing visual character. Therefore, no significant visual impacts would occur with implementation of the proposed Project, and no mitigation measures are required.

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

Less Than Significant Impact. The Project site is in an urban area with existing sources of ambient lighting, such as street lights and lighting of the airfield and other airport facilities. Outdoor lighting is currently present at the Project site, primarily in the northern portion of the site at Guard Post 21 and near the construction trailers. Existing lighting in the vicinity of the Project area includes Pershing Drive street lights to the west, World Way West street lights to the north as well as lighting of the West Remote Pads/Gates further to the north, and lighting of the American Airlines employee parking lot to the east, as well as the Continental Airlines aircraft maintenance area adjacent to the parking lot. As a part of the proposed Project, new high-mast floodlighting (pole mounted) would be installed to illuminate the aircraft parking area; however, such lighting would be directed downward toward the immediate area of the RON and would not result in any light spillover at the nearest sensitive receptors (i.e., residential neighborhoods

located approximately 0.4 mile to the south and 1.0 mile to the north). The proposed lighting would be consistent with the type of lighting found elsewhere in the western portion of the airport (i.e., at the West Remote Pads/Gates) and would be in compliance with applicable Federal Aviation Administration (FAA) standards and in conformance with relevant LAWA guidelines. It would not meaningfully increase exterior light sources or change light or glare effects in the area. Therefore, no significant impacts related to lighting and glare would occur, and no mitigation measures are required.

II. AGRICULTURAL AND FOREST RESOURCES. *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California agricultural land evaluation and site assessment model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project*:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, 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 the 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 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?

a-e. No Impact. The Project site is located within a developed airport and is surrounded by airport uses, urbanized areas, and the Los Angeles/El Segundo Dunes. No agricultural or forest resources or operations currently exist, or have existed in the recent past, at the Project site or surrounding areas. Further, there are no Williamson Act contracts in effect for the Project site or surrounding areas. The proposed Project would represent a continuation of the current airport-related and urban uses and would not convert farmland to non-agricultural use nor would it result in any conflicts with existing zoning for agricultural use or a Williamson Act contract. Similarly, it would not result in the conversion of forest land to non-forest use. Therefore, no impacts to agricultural or forest resources would occur with implementation of the proposed Project, and no mitigation measures are required.

III. AIR QUALITY. *The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project result in:*

a. Conflict with or obstruct implementation of the South Coast Air Quality Management Plan?

No Impact. The SCAQMD has jurisdiction over an area of 10,743 square miles consisting of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin. The South Coast Air Basin (Basin) is a sub-region of SCAQMD's jurisdiction and covers an area of 6,745 square miles. While air quality in this area has improved, the Basin requires continued diligence to meet air-quality standards.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). Most recently, SCAQMD and California Air Resources Board (CARB) have adopted the 2007 AQMP and have submitted it to the U.S. Environmental Protection Agency (EPA) for approval. These plans require, among other emissions-reducing activities, control technology for existing sources; control programs for area sources and indirect sources; a permitting system designed to ensure no net increase in emissions from any new or modified permitted sources of emissions; transportation control measures; sufficient control strategies to achieve a five percent or more annual reduction in emissions (or 15 percent or more in a three-year period) for reactive organic gas (ROG), oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM10); and demonstration of compliance with CARB's established reporting periods for compliance with air-quality goals.

The SCAQMD also adopts rules to implement portions of the AQMP. At least one of these rules is applicable to the construction phase of the proposed Project. Rule 403 requires the implementation of best available fugitive dust control measures during active construction activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. In addition to required compliance with Rule 403, which will be called-out in the construction contract specifications for the Project, a number of other measures for the reduction of construction emissions will be included in the Project. Such measures include the use of low-emission construction vehicles, the application of Best Available Emission Control Devices on construction equipment, restrictions on vehicle/equipment idling, and other measures as more fully described in Section III.b. below.

From an operational standpoint, implementation of the proposed Project would not result in a material increase in aircraft emissions, given that it would be accommodating aircraft that would otherwise park or undergo servicing and maintenance elsewhere at the airport (i.e., would not result in additional aviation activity). Implementation of the Project could result in a net reduction in existing emissions given that each aircraft parking position would be equipped with electrical power and preconditioned air, which would reduce the need for aircraft to use on-board auxiliary power units (APUs) for such services and, in-turn, reduce aircraft-related emissions, as compared to other RON/maintenance areas at LAX that do not have such improvements. These Project features would complement the AQMP's policies and provisions to improve the region's air quality; the Project would not conflict with or obstruct implementation of the SCAQMP.

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

Potentially Significant Unless Mitigation Incorporated.

Air Quality Standards

Table 1 presents the NAAQS and CAAQS currently in effect for criteria air pollutants, which include ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter of a size 10 microns or smaller (PM10) or 2.5 microns or smaller (PM2.5), CO, and lead.

The federal Clean Air Act (CAA) specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones.

The proposed Project is within the Basin, which is a sub-region of the SCAQMD's jurisdiction including all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is designated as a federal nonattainment area for ozone, lead, PM10, and PM2.5. Nonattainment designations under the CAA for ozone and PM10 are categorized into levels of severity based on the level of concentration above the standard, which is also used to set the required attainment date. The Basin was reclassified in 1998 to attainment/maintenance for NO_2 since concentrations of that pollutant dropped below (became better than) the NO_2 NAAQS in the early 1990s. More recently, the Basin was reclassified to attainment/maintenance for CO in 2007. Attainment/maintenance means that the pollutant is currently in attainment and that measures are included in the SIP to ensure that the NAAQS for that pollutant are not exceeded again (maintained).

The California Clean Air Act requires all areas of the state to achieve and maintain the CAAQS by the earliest practicable date. The CAAQS are at least as stringent as, and in several cases more stringent than, the NAAQS.

Table 1 National and California Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3) (see footnote 8)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3) (see footnote 8)	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	—	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 µg/m^3) (see footnote 9)	
	1 Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3) (see footnote 9)	—	
Lead[10]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[11]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (09/08/10)

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

9. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (09/08/10)**

Source: California Environmental Protection Agency. Ambient Air Quality Standards updated September 8, 2010. Available at: http://www.arb. ca.gov/research/aaqs/aaqs2.pdf. Accessed: September 2010.

Table 2 presents the attainment designation for each of the federal and state criteria air pollutants.

Table 2

South Coast Air Basin Attainment Status

Pollutant (Status as of May 23, 2008)	National Standards	California Standards
Ozone (O_3)	Nonattainment - Extreme	Nonattainment
Carbon Monoxide (CO)	Attainment - Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Attainment - Maintenance	Nonattainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM10)	Nonattainment - Serious	Nonattainment
Fine Particulate Matter (PM2.5)	Nonattainment	Nonattainment
Lead (Pb)	Nonattainment (LA County)	Attainment

Source: CDM, 2010.

Existing Ambient Air Quality

The SCAQMD maintains a network of air quality monitoring stations located throughout the Basin. The closest monitoring station, and most representative of existing air quality conditions in the Project area, is the Southwest Coastal Los Angeles Monitoring Station, located at 7201 W. Westchester Parkway, roughly 1.5 miles northwest of the Theme Building and less than 0.5 mile from Runway 6L-24R. This station monitors O_3, CO, SO_2, NO_2, and PM10. Data available from this monitoring station were summarized for the five-year period of 2005 - 2009 in **Table 3**. In general, the measured concentrations at this location are below many of the other monitors around the Basin. It does appear that 2007 showed an increase in PM10 measurements. These PM10 concentrations may have been influenced by the extensive fires that occurred throughout Southern California in fall 2007. The fires occurred concurrently with strong Santa Ana winds that blew from the eastern deserts out to the coast, and may have carried the ash to the coastal monitoring stations.

Table 3

Southwest Coastal Los Angeles Monitoring Station Ambient Air Quality Data

Pollutant	2005	2006	2007	2008	2009
Ozone (O_3)					
Maximum Concentration 1-hr period, ppm	0.086	0.084	0.087	0.086	0.077
Maximum Concentration 8-hr period, ppm	0.076	0.066	0.076	0.076	0.070
Carbon Monoxide (CO)					
Maximum Concentration 1-hr period, ppm	2.80	2.80	3.30	3.10	NA
Maximum Concentration 8-hr period, ppm	2.14	2.27	2.39	2.53	1.99
Nitrogen Dioxide (NO_2)					
Maximum Concentration 1-hr period, ppm	0.091	0.099	0.084	0.094	0.077
Annual Arithmetic Mean, ppm	0.013	0.015	0.014	0.014	NA
Sulfur Dioxide (SO_2)					
Maximum Concentration 1-hr period, ppm	0.040	0.021	0.019	0.017	NA
Maximum Concentration 24-hr period, ppm	0.012	0.010	0.009	0.004	0.006
Annual Arithmetic Mean, ppm	0.005	0.002	0.002	0.001	NA
Respirable Particulate Matter (PM10)					
Maximum Concentration 24-hr Period, $\mu g/m^3$	44	45	128	50	52
Annual Concentration, $\mu g/m^3$	22.9	23.5	29.3	25.5	25.5

Notes:
NA = Not Available
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter

Source: California Air Resource Board: http://www.arb.ca.gov/adam/index.html.
EPA Air Data (for 1-hr CO and 1-hr SO_2)

Project Impacts

The evaluation of air quality impacts associated with the proposed Project focuses on construction-related impacts. For the reasons described above in Response No. III.a, no adverse air quality impacts associated with Project operations are expected to occur (i.e., implementation of the Project would not result in an increased aviation/maintenance activity than would otherwise occur elsewhere at the airport. In addition, the proposed Southwest RON Apron would include facilities that reduce, if not alleviate, the need to provide power and cooling to aircraft through on-board APUs).

Overview of Construction Activities

Development of the proposed Project would consist of six stages of construction including:

Demolition: Although the majority of the site is vacant and undeveloped, there are gravel and partially paved surfaces in the northern portion of the site (i.e., vehicle parking areas for former

construction office trailers) and along the eastern edge of the site (i.e., vehicle service road for Taxiway AA) that would need to be removed in the early phase of construction. It is anticipated that construction equipment involved in the demolition and removal of those surfaces would include a front-end loader, on-road dump/haul trucks, and an on-road water truck (i.e., a water truck licensed to operate on public roadways and therefore meets on-road emission standards, even though it would be used primarily off-road during Project construction).

Stockpile Removal: The central and southern portions of the site are currently occupied by numerous soil stockpiles that were generated by previous construction projects at LAX. It is estimated that approximately 185,000 cubic yards of such stockpiled soils are located on-site and would need to be removed to provide a suitable subgrade elevation for the RON. It is anticipated that the removal of the stockpiles would involve two front-end loaders, a large excavator, an on-road water truck, and numerous on-road dump/haul trucks. Removal of the stockpiles would occur over approximately 11 weeks, 5 days/week, and involve trucks with a capacity of 20 cubic yards each, resulting in approximately 169 truck trips per day. Depending on the composition of the materials within each stockpile, which varies from soils suitable for reuse as engineered fill to soils containing pieces of concrete, asphalt, and other such construction debris, the truck haul distance for disposal of stockpiled soils would vary. Soils suitable for reuse as engineered fill would be transported approximately 4 miles to the east for placement within a LAWA-owned property at the northeast corner of Imperial Highway and Aviation Boulevard. That property, sometimes referred to as "Continental City," has an area excavated for the basement of a previously proposed high-rise building that was never constructed, and is now being used for placement of engineered fill. Stockpiled soils that are not suitable for reuse as engineered fill at Continental City are assumed to be transported off-site for reuse/disposal at locations within a 15-20 mile radius of LAX. It is unknown at this time exactly how much of the stockpiled soils would go to Continental City and how much would go elsewhere; such a determination would be made based on pending soils tests and during excavation of the stockpiles. As a bid/contract specification, LAWA will require that all diesel-powered dump/haul trucks involved in the stockpile removal construction phase be a model year that is 2007 or newer. In January of 2001, the U.S. EPA promulgated a Final Rule to reduce emission standards for 2007 and subsequent model year heavy-duty diesel engines. These emission standards represent substantial reductions in oxides of NO_x emissions, non-methane hydrocarbon emissions, and particulate matter emissions compared to the 2004 and earlier model year emission standards. The reduced diesel emissions associated with using 2007 and newer haul trucks have been factored into the emission estimates for the stockpile removal phase of construction.

Subgrade Preparation: Following removal of the existing stockpiles, the site would be mass-graded to achieve the desired level surface and subgrade elevation necessary. It is anticipated that construction equipment involved in the subgrade preparation would include a motor grader, two scrapers, an on-road water truck, a front-end loader, and a vibratory compactor. It is also assumed that there may be limited use of on-road dump/haul trucks for import or export of soil, if necessary.

Underground Utilities: Grading and installation of underground utilities, such as storm drain lines/facilities, oil/water separator (clarifier), wash rack system, and water and electrical lines, would involve the operation of a medium-size excavator, a front-end loader, a medium-size crane, and limited use of on-road dump/haul trucks, if needed.

Paving: Activities associated with the paving of the proposed Project would include placement of the base course materials, pouring of econocrete, pouring of Portland Cement Concrete (PCC), and asphalt-concrete (AC) paving. These activities, which would occur sequentially, would include a mix of equipment including a scraper, a motor grader, a vibratory compactor, an on-road water truck, a concrete batch plant immediately adjacent to the site, a front-end loader for the batch plant, on-road concrete trucks to transport concrete from the batch plant a short distance to the active pour area, a material transfer vehicle to transfer the concrete from the truck into a concrete spreading machine, a concrete texture/curing machine, and an asphalt batch plant, asphalt paving machine, and asphalt compactor.

Miscellaneous Work: Such activities include the sawing of concrete joints, installation of the RON kits, installation of the flood lights, installation of the clarifier system, and apron striping.

In conjunction with each of the construction phases described above, there would be workers commuting to and from the site, which was accounted for in the emissions estimates for each phase.

Project Requirements Related to Reduction of Construction Emissions

The proposed Southwest RON Apron Project would incorporate applicable construction guidelines outlined in the *LAWA Sustainable Airport Planning, Design and Construction Guidelines (LSAG)*.[2] The guidelines will be incorporated into the proposed Southwest RON Apron Project by including them as specifications in bid documents issued to potential construction contractors. The sustainability guidelines related to construction emissions include but are not limited to:

- Dust Control: A Dust Control Plan would be prepared to reduce dust impacts throughout the construction period.
- Vehicle Idling Plan: The contractor would develop a plan to reduce potential air pollutant emissions associated with implementation of the Southwest RON Apron Project. The plan would include but not be limited to prohibiting construction vehicle idling in excess of idling limits, a vehicle idling inspection program, idle reduction technology, and signage for no idling areas.
- Low-Emission Construction Vehicles: The construction vehicles would meet the current California Low-Emission Vehicle Standards and comply with the SCAQMD's Fleet Rules 1191 and 1196[3] and Department of Motor Vehicles regulations.
- Retrofit Construction Vehicles: The contractor would retrofit construction vehicles and equipment to reduce emissions from older construction vehicles and equipment including criteria pollutants, hazardous air pollutants (HAP) and greenhouse gases (GHG) by using technologically feasible and fuel-efficient options.
- Alternative Transportation During Construction: The contractor would provide alternative transportation such as an on-site shuttle, carpooling, and ride-sharing and incentives during construction to reduce personal vehicle emissions, congestion, and oil consumption.
- Low-Emission Construction Equipment: The contractor would develop and implement plans that insure that construction equipment used during construction is in compliance with CARB regulations.

[2] Los Angeles World Airports, Los Angeles World Airports Sustainable Airport Planning, Design and Construction Guidelines Version 5.0, February 2010.
[3] South Coast Air Quality Management District, SCAQMD List of Current Rules, Available: http://www.arb.ca.gov/drdb/sc/cur.htm, Accessed: October 6, 2010.

In addition, it is proposed that the following construction-related air quality measures derived from Section X.F of the LAX Master Plan Community Benefits Agreement (CBA) be included in the construction bid and contract specifications and Mitigation Monitoring and Reporting Program for the Project.[4]

- **Mitigation Measure AQ-1. Best Available Emissions Control Devices Required.** All diesel equipment used for construction is required to be outfitted with best available emission control devices (BAECD), primarily to reduce diesel particulate matter emissions, including fine particulate, and secondarily to reduce emissions of NO_x. This requirement applies to diesel-powered off-road equipment, on-road equipment, and stationary diesel engines. The emission control devices utilized for the equipment at the construction site shall be verified or certified by CARB and/or EPA for use on on-road or off-road vehicles or engines.
- **Mitigation Measure AQ-2. Emission Reduction Standards.** Emission control devices used pursuant to the BAECD requirement shall achieve emission reductions to no less than what would be achieved by a Level 2 (50 percent particulate matter reduction) diesel emission control strategy for a similar sized engine as defined by CARB regulations. Under no circumstances shall an emission reduction device or strategy used on the construction site increase the emission of any pollutant above that which is the standard for that engine.
- **Mitigation Measure AQ-3. Ultra-Low Sulfur Diesel and Other Fuels.** All diesel equipment used for construction shall use only Ultra-Low Sulfur Diesel fuel (ULSD) with a sulfur content of fifteen parts per million or lower. If adequate supplies of ULSD are not available in the Southern California area, other fuels may be used, provided that the other fuels do not result in greater emissions of PM2.5 or NO_x than that which would be produced by the use of ULSD.
- **Mitigation Measure AQ-4. Operational Requirements.** Operational requirements pertaining to excessive vehicle idling and required engine maintenance intervals shall be issued and enforced by LAWA.
- **Mitigation Measure AQ-5. Independent Third-Party Monitor.** Compliance with requirements of Mitigation Measures AQ-1 through AQ-4 is required to be monitored, documented, and reported by an Independent Third Party Monitor.

Emission Factors

Off-Road Equipment

Off-road construction equipment includes heavy-duty construction equipment that are not licensed for travel on public roadways. Off-road equipment types, models, and horsepower ratings were estimated based on other similar construction activities completed at LAX. Emission rates were obtained from the CARB off-road emission factor database for Los Angeles County.

[4] While the Southwest RON Apron Project is not considered to be an LAX Master Plan Project, the basic framework and requirements of several Master Plan commitments and mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program would effectively mitigate the potential environmental impacts of the Southwest RON Apron Project if and as those commitments and measures are included as requirements of the proposed Southwest RON Apron Project.

Off-road exhaust emission factors for CO, ROG, NO_x, SO_x, PM10, and CO_2 were developed using the CARB OFFROAD2007 Model.[5] PM2.5, emission factors were developed using the PM10 emission factors, and PM2.5-to-PM10 ratios derived from the CARB-approved California Emission Inventory Development and Reporting System (CEIDARS), Version 2.5. Daily emissions for off-road equipment were calculated by multiplying an emission factor by the horsepower, and daily operational hours for each type of equipment.

On-Road On-Site Equipment

On-road on-site equipment emissions are generated from on-site water trucks, dump trucks, haul trucks, and other on-road vehicles. Exhaust emissions from on-road on-site sources were calculated using emission factors from the CARB emission factor model EMFAC2007, Version 2.3.[6]

On-road on-site equipment types were substituted with vehicle types that correspond to CARB vehicle classes. Emission factors for gasoline-powered vehicles were derived from EMFAC2007 Burden Model annual emissions for light-duty automobiles. Emissions factors for heavy-duty diesel vehicles were based on the Heavy-Heavy-Duty Diesel Truck (HHDT) emission factors from EMFAC2007 Burden Model. EMFAC2007 emission factors, expressed in pounds per mile, were used to calculate emissions in pounds per day. The EMFAC2007 emission factors account for startup, running, and idling. In addition, the ROG emission factors include diurnal, hot soak, running, and resting emissions, and the PM10 and PM2.5 factors include tire and brake wear.

On-Road Off-Site Equipment

On-road off-site trip types identified in the construction schedule include personal vehicles used for worker commute and off-site hauling (i.e., stockpile removal) and materials delivery. Total emissions for on-road off-site equipment were calculated using the same methodology assumed for on-road on-site vehicles. In general, the EMFAC2007 emissions factors were multiplied by the total vehicle miles travelled (VMT) for each vehicle type to obtain emissions in pounds per day. Annual emissions were then calculated using the proposed construction schedule.

Fugitive Dust

Additional sources of PM10 and PM2.5 emissions associated with construction activities are related to fugitive dust. Fugitive dust includes entrained road dust from both off- and on-road vehicles, as well as dust from the on-site batch plant, grading, loading and unloading, and hauling and storage activities. Fugitive dust emissions (PM10 and PM2.5) were calculated using the URBEMIS model,[7] EPA's AP-42,[8] and SCAQMD's CEQA Air Quality Handbook. Daily fugitive dust emissions were calculated for each piece of construction equipment or construction activity, from which annual and peak day fugitive dust emissions were determined.

[5] California Air Resources Board, OFFROAD2007 Model and South Coast Air Basin Fleet Averages, Available: http://www.aqmd.gov/CEQA/handbook/offroad/offroad.html, Accessed: October 2010.

[6] California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3.

[7] Jones and Stokes, Associates, Software User's Guide: URBEMIS2007 for Windows Version 9.2 - Emissions Estimation for Land Use Development Projects, prepared on behalf of South Coast Air Quality Management District, November 2007.

[8] U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition (AP-42), Available: http://www.epa.gov/ttn/chief/ap42/index.html.

Fugitive dust emissions for vehicles traveling on paved roads were calculated using the paved road dust factor for high-average daily trip (ADT) roads under average conditions developed by Midwest Research Institute.[9] All haul trucks, flatbed trucks, and automobiles were assumed to travel on paved roads.

Fugitive dust emissions from on-site construction activities (grading, crushing, loading, hauling, and storage) were calculated from the AP-42 emission factors and the URBEMIS model.

Fugitive dust emissions associated with the operation of a concrete batch plant were quantified as part of the air-quality analysis. Based on the expected operating hours for the rock crusher, as well as the amount of concrete and asphalt pavement to be crushed, fugitive dust emissions from operation of an on-site rock crusher were calculated using emission factors from AP-42 Section 11.19.2, Table 11.19.2-2. An overall emission factor was derived by summing emission factors for the following crushing activities: tertiary crushing; fines crushing; and screening. Fugitive dust emissions from the on-site concrete batch plant were calculated based on the methodology described in Section 11.12 (Concrete Batching) of AP-42, and emission factors were obtained from Table 11.12-4. The batch plant was assumed to operate using a central mix method.

Paving and Painting

Construction materials that can be sources of ROG emissions include hot-mix asphalt paving and RON apron area striping. ROG emissions from asphalt paving operations result from the evaporation of the petroleum distillate solvent, or diluent, used to liquefy asphalt cement. Asphalt paving emissions were calculated using the SCAQMD recommended approach included in the URBEMIS model. The URBEMIS model is recommended by SCAQMD for estimation of construction and operation emissions from land-use development projects.

ROG emissions from paint striping were calculated based on the assumed project's maximum daily paint usage of 25 gallons, a worst-case paint ROG content of 100 grams per liter,[10] and the proposed construction schedule.

Thresholds of Significance

The SCAQMD has developed operational and construction-related thresholds of significance for air-quality impacts of projects proposed in the Basin. These thresholds, which are included in the SCAQMD CEQA Air Quality Handbook, are utilized for purposes of CEQA, and are summarized in **Table 4**. In accordance with the SCAQMD CEQA Air Quality Handbook, a significant air-quality impact would occur if the estimated incremental increase in operational or construction-related emissions attributable to the project would be greater than the daily operational or construction emission thresholds presented in **Table 4**.

[9] South Coast Air Quality Management District, Improvement of Specific Emission Factors (BACM Project No. 1) Final Report, prepared by Midwest Research Institute, March 29, 1996.

[10] South Coast Air Quality Management District, Rule 1113 - Architectural Coatings, Amended July 13, 2007.

Table 4

South Coast Air Quality Management District Significance Thresholds

Pollutant	Mass Daily Thresholds (lbs/day)	
	Construction	Operation
Nitrogen Oxides (NO_x)	100	55
Volatile Organic Compounds (VOCs)	75	55
Respirable Particulate Matter (PM10)	150	150
Fine Particulate Matter (PM2.5)	55	55
Sulfur Oxides (SO_x)	150	150
Carbon Monoxide (CO)	550	550
Lead	3	3

Notes:
lbs/day = pounds per day

Source: SCAQMD Air Quality Significance Thresholds. Available at www.aqmd.gov/ceqa/handbook/signthres.pdf, March 2009.

The estimated maximum daily construction emissions inventories for the proposed Southwest RON Apron Project are presented in **Table 5.** The maximum daily construction emissions of each pollutant delineated in **Table 5** represents the highest level of emission of that pollutant in any of the construction phases. For example, the highest level of NO_x emissions occurring during the Stockpile Removal phase of construction, while the highest level of CO emissions would occur during the Asphalt-Concrete (AC) Paving. Details of the construction emission input parameters and results are presented in Appendix A.

Table 5

Estimate of Construction-Related Air Pollutant Emissions for the Proposed Southwest RON Apron Project

Pollutant	Estimated Emissions Highest Peak Daily (lbs/day[2])	SCAQMD Threshold of Significance[1] (lbs/day[2])
Nitrogen Oxides (NO_x)	94	100
Volatile Organic Compounds (VOCs)	26	75
Respirable Particulate Matter (PM10)	54	150
Fine Particulate Matter (PM2.5)	8	55
Sulfur Oxides (SO_x)	<1	150
Carbon Monoxide (CO)	51	550

[1] Although lead (Pb) is a criteria pollutant with a SCAQMD Significance Threshold, it was not evaluated in the impacts analysis because construction activities associated with the proposed Southwest RON Apron Project would have negligible emissions of lead (i.e., diesel fuel and non-leaded gasoline used for construction equipment have very little, if any, lead content).

[2] lbs/day = pounds per day

Source: CDM, 2010.

As shown in **Table 5**, the peak daily emissions associated with construction of the proposed Project, which include incorporation of Mitigation Measures AQ-1 through AQ-5 and applicable LAWA Sustainable Airport Planning, Design and Construction Guidelines identified above, would be below the SCAQMD thresholds and are therefore considered to be less than significant.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, carbon monoxide, PM10, and PM2.5) under an applicable federal or state ambient air quality standard?

Less Than Significant Impact.

The construction of several ongoing and anticipated future projects at LAX would potentially occur simultaneously with the Southwest RON Apron Project construction. Such projects considered in the cumulative construction air quality impacts analysis include:

- Bradley West Project - This project provides for the development of additional aircraft gates on the west side of TBIT, new concourses, secure/sterile passenger corridors between TBIT and

Terminals 3 and 4, and improvements within the TBIT central core for more efficient passenger processing.

- Security Program -- In-Line Baggage Screening System (T6) - This project is to construct an in-line baggage screening system at LAX Terminal 6.
- Airfield Intersection Improvements - This project would provide various taxiway, taxilane, and runway intersection improvements;
- Central Utility Plant (CUP) Replacement Project - This project involves the construction of a new utility plant and associated pipeline/utility lines within the Central Terminal Area (CTA) and demolition/removal of the existing utility plant and related lines.
- CTA Elevators and Escalators Replacement - This project provides the replacement of existing elevators and escalators within parking structures and terminals at LAX.
- CTA Seismic Retrofits and Related Improvements - This project involves the retrofitting of pedestrian and vehicular bridges, in conjunction with CTA joint repair, roadway improvements, and security barrier improvements. Miscellaneous Construction and Maintenance Activities
- Interim Taxiway Safety Improvement Project (ITSIP) - This project proposes near-term improvements to certain taxiways within the North Airfield at LAX for the purpose of enhancing the safety of aircraft operations on the north runways.

The cumulative air pollutant emissions from construction of these projects are summarized in **Table 6**.[11]

[11] At the time when the CUP Replacement Project Final EIR was completed, a Metro Bus Maintenance and Operations Facility was proposed to be developed at the eastern edge of LAX and the construction period for that facility would have included the Third Quarter of 2011. The project is no longer being proposed to occur near LAX and, as such, is not included in the cumulative construction air quality impacts analysis for the Southwest RON Apron Project. Additionally, the Westchester Rainwater Improvement Project included in the CUP Replacement Project Final EIR has been delayed and is not anticipated to be under construction by the Third Quarter of 2011; hence, it is not included in the analysis presented herein.

Table 6

Cumulative Construction Project Emissions (lbs/day)

Construction Project	CO	VOC	NO_x	SO_x	PM10	PM2.5
Bradley West Project[1]	1,216	362	1,987	3	559	172
Security Program - In-Line Baggage Screening Systems[1]	14	2	12	-	0	0
Airfield Intersection Improvements[1]	41	22	71	0	15	7
Central Utility Plant Replacement Project[2]	442	117	799	1	120	52
CTA Elevators and Escalators Replacement[1]	7	0	0	0	0	0
CTA Seismic Retrofits and Related Improvements[1]	14	4	25	0	2	2
Miscellaneous Construction and Maintenance Activities[3]	29	3	3	0	3	1
Interim Taxiway Safety Improvement Project	150	127	291	0	78	23
Total Maximum Daily Emissions[4]	***1,913***	***637***	***3,188***	***4***	***777***	***257***
Southwest RON Apron Project Peak Daily Emissions	**51**	**26**	**94**	**<1**	**54**	**8**
Total Cumulative Construction Project Peak Daily Emissions	**1,964**	**663**	**3,282**	**<5**	**831**	**265**
SCAQMD Significance Threshold	**550**	**75**	**100**	**150**	**150**	**55**
Percentage of Southwest RON Apron Project Contribution to Cumulative Emissions	**2.6%**	**3.9%**	**2.9%**	**<20%**	**6.5%**	**3.0%**

Sources:

1 *City of Los Angeles, Los Angeles World Airports. 2009.* Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), *September.*

2 *City of Los Angeles, Los Angeles World Airports. 2009.* Final Environmental Impact Report for Central Utility Plant Replacement Project, Los Angeles International Airport (LAX), *October.*

Notes:

3 Includes work trips for projects that have no other notable construction equipment, including the Terminal/Apron Electrical Service Capacity Upgrade.

4 Total assumes emissions overlap. Emissions may actually occur in different time periods between projects.

As indicated in **Table 6**, the cumulative construction project peak daily emissions would exceed the SCAQMD Significance Thresholds for CO, VOC, NO_X, PM10, and PM2.5; only the cumulative emissions for SO_x would not exceed the significance threshold. The Southwest RON Apron Project's incremental contribution to the threshold exceedances would not be cumulatively considerable. The Project's relatively low levels of air pollutant emissions constitute a very small portion of the cumulative emissions and the extent to which the cumulative emissions are either above or below the SCAQMD significance thresholds

is not materially influenced by whether or not the Project's emissions are included. Additionally, the Southwest RON Apron Project is proposed to incorporate stringent control measures for construction-related air pollutant emissions, including measures from the *LAWA Sustainable Airport Planning, Design and Construction Guidelines*, which are intended to reduce impacts from all LAWA projects, and measures derived from the *LAX Master Plan Community Benefits Agreement* (see Mitigation Measures AQ-1 through AQ-5 in Response No. III.b. above.) The construction-related air pollutant emissions associated with the proposed Southwest RON Apron Project would be relatively minor and less than significant even without the control measures identified in the aforementioned documents, and incorporation of those additional requirements would serve to further reduce the Project's incremental contribution to cumulative air quality impacts. The Project's contribution to significant cumulative impacts is, therefore, not cumulatively considerable.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The Project site is located in the southwestern portion of the airport, with the adjacent uses being airfield area to the north, east, and south, and roadway and dune area, which is not publically accessible, to the west. The nearest sensitive receptor is residential development in El Segundo, approximately 2,300 feet to the south. The prevailing wind direction at LAX is from the west and southwest, at which the subject residential development would be upwind of, or tangential to, emissions from the Project site. Also, the peak daily emissions of criteria pollutants associated with the Project would be less than the SCAQMD thresholds of significance; hence, are not considered to represent substantial pollutant concentrations. Given the distance and location of the nearest sensitive receptors to the Project site and level of peak daily pollutants estimated for the Project, potential exposure to pollutant concentrations would be less than significant, and no mitigation measures are required.

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

Less Than Significant Impact. Diesel construction equipment and trucks would emit odors associated with diesel fuel combustion; these odors would cease as soon as the construction period ends, and are generally not as offensive as odors associated with, for example, wastewater treatment facilities, agricultural operations, refineries, or feedlots. Additionally, as noted above, the nearest sensitive receptors are approximately 2,300 feet south of the Project site, which places them upwind of, or tangential to, the Project site. Since the exposure is temporary and would not affect a substantial number of people, it is unlikely that the proposed Project would create objectionable odors affecting a substantial number of people. Therefore, this impact would be less than significant, and no mitigation measures are required.

IV. BIOLOGICAL RESOURCES. *Would the project:*

a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations 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 the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. 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 tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

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?

a-f. No Impact. The Project site is located within an area that has been used for construction trailers and construction storage and staging for several years. It is graded, highly disturbed, and largely devoid of vegetation other than some small ruderal weedy areas; the loss of which would be considered a less-than-significant impact. There are no riparian/wetland areas, trees, or wildlife movement corridors at or adjacent to the Project site. Therefore, no impacts to biological resources would occur with implementation of the proposed Project, and no mitigation measures are required.

V. CULTURAL RESOURCES. *Would the project:*

a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

No Impact. The LAX Master Plan EIR included historical resources surveys. Historical resources at LAX include the following:[12]

- Hangar One (listed on National Register) on the southeastern portion of LAX near the northwest corner of Aviation Boulevard and Imperial Highway;
- Theme Building (eligible for National Register) in the center of the LAX terminals;
- WWII Munitions Storage Bunker (eligible for National Register) near the western boundary of LAX; and
- Intermediate Terminal Complex (eligible for the California Register) on the south side of Century Boulevard between Sepulveda Boulevard and Airport Boulevard.

None of the above resources are at or near the Project site; hence, no impacts to historic resources would occur with implementation of the proposed Project, and no mitigation measures are required.

b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

Potentially Significant Unless Mitigation Incorporated. The LAX Master Plan Final EIR identified 36 previously recorded archeological sites within a radius of approximately two miles of LAX, including

[12] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

eight sites located on LAX property.[13] None of the eight sites identified on LAX property are located within the boundaries of the Project site or in the immediate vicinity. The Project site is a highly disturbed area that has long been, and is currently being, used for construction staging. Any resources that may have existed on the site at one time are likely to have been displaced, and, as a result, the overall sensitivity of the site with respect to buried resources is low. Additionally, grading associated with site preparation would primarily involve the removal of existing soil stockpiles and the placement/compaction of fill materials to raise the base elevation of the site to match the elevation of Taxiway AA along the eastern edge of the site. As such, little, if any, excavation into native soils is expected to occur, which would further limit the potential for Project implementation to encounter archaeological resources. Nonetheless, the potential exists for the destruction of archaeological resources during construction which could result in a significant impact to archaeological resources. However, with implementation of the following mitigation measure, which would be included in the construction requirements for the Project, the potential impact to archaeological resources would be reduced to less than significant.[14]

- **Mitigation Measure HA-1. Conformance with LAX Master Plan Archaeological Treatment Plan.** Prior to initiation of grading and construction activities, LAWA will retain an on-site Cultural Resource Monitor (CRM), as defined in the LAX Master Plan Mitigation Monitoring and Reporting Program Archaeological Treatment Plan (ATP), who will determine if the proposed project area is subject to archaeological monitoring. As defined in the ATP, areas are not subject to archaeological monitoring if they contain redeposited fill or have previously been disturbed. The CRM will compare the known depth of redeposited fill or disturbance to the depth of planned grading activities, based on a review of construction plans. If the CRM determines that the proposed project site is subject to archaeological monitoring, a qualified archaeologist (an archaeologist who satisfies the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) shall be retained by LAWA to inspect excavation and grading activities that occur within native material. The extent and frequency of inspection shall be defined based on consultation with the archaeologist. Following initial inspection of excavation materials, the archaeologist may adjust inspection protocols as work proceeds.

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

Potentially Significant Unless Mitigation Incorporated. The records search conducted for the LAX Master Plan Final EIR identified the presence of two vertebrate fossil occurrences within the airport area, three more in the immediate vicinity of the airport, and one within approximately two miles of the airport. These fossils were found at depths ranging from 13 to 70 feet. As discussed for archaeological resources above, the Project site is a previously disturbed area and the need for, and/or likelihood of, excavating down to native soils is low. Therefore, the likelihood of encountering paleontological resources during site development is considered to be very low. However, similar to archeological resources, the potential

[13] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

[14] While the Southwest RON Apron Project is not considered to be an LAX Master Plan Project, the basic framework and requirements of several Master Plan commitments and mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program would effectively mitigate the potential environmental impacts of the Southwest RON Apron Project if and as those commitments and measures are included as requirements of the proposed Southwest RON Apron Project.

exists for the destruction of paleontological resources during construction which could result in a significant impact to paleontological resources. However, with implementation of the following mitigation measures, which would be included in the construction requirements for the Project, the potential impact on paleontological resources would be reduced to less than significant.[15]

- **Mitigation Measure PA-1. Conformance with LAX Master Plan Paleontological Management Treatment Plan.** Prior to the initiation of grading and construction activities, LAWA will retain a professional paleontologist, as defined in the LAX Master Plan Mitigation Monitoring and Reporting Program Paelontological Management Treatment Plan (PMTP), who will determine if the project site exhibits a high or low potential for subsurface resources. If the project site is determined to exhibit a high potential for subsurface resources, paleontological monitoring will be conducted in accordance with the procedures stipulated in the PMTP. If the project site is determined to exhibit a low potential for subsurface deposits, excavation need not be monitored as per the PMTP. In the event that paleontological resources are discovered, the procedures outlined in the PMTP for the identification of resources will be followed.
- **Mitigation Measure PA-2. Construction Personnel Briefing.** In accordance with the PMTP, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossiliferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur.

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

Less Than Significant Impact. The Project site is developed with aviation-related uses, and the airport is located within a highly urbanized area. Within the Project area, traditional burial resources would likely be associated with the Native American group known as the Gabrielino. Based on previous surveys conducted at LAX and the results of the record searches completed in 1995, 1997, and 2000 for the LAX Master Plan EIR, no traditional burial sites have been identified within the LAX boundaries or in the vicinity. However, if human remains are encountered, all grading and excavation activities in the vicinity would cease immediately and the appropriate LAWA authority would be notified. Compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code is applicable. Implementation of these steps would ensure that potential impacts associated with human remains would be less than significant, and no mitigation measures are required.

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

a. Exposure of 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

[15] While the Southwest RON Apron Project is not considered to be an LAX Master Plan Project, the basic framework and requirements of several Master Plan commitments and mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program would effectively mitigate the potential environmental impacts of the Southwest RON Apron Project if and as those commitments and measures are included as requirements of the proposed Southwest RON Apron Project.

substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact. Fault rupture is the surface displacement that occurs along the surface of a fault during an earthquake. As indicated in the LAX Master Plan EIR, while the Project site is located within the seismically active southern California region, it is not located within an Alquist-Priolo Special Study Zone.[16] Geotechnical literature indicates that the Charnock Fault, a potentially active fault, may be located near or through eastern portions of LAX property. However, as stated in the LAX Master Plan EIR, recent evaluation indicates that the Charnock Fault is considered to have low potential for surface rupture independently or in conjunction with movement on the Newport-Inglewood Fault Zone, which is located approximately three miles east of LAX.[17] Therefore, impacts to people or structures resulting from rupture of a known earthquake fault are considered less than significant, and no mitigation measures are required.

ii. Strong seismic ground shaking?

Less Than Significant Impact. As indicated in the LAX Master Plan Final EIR, the Project site is located in the seismically active southern California region; however, there is no evidence of faulting on the site, and it is not located within an Alquist-Priolo Special Study Zone.[18] Further, the proposed Project consists of additional RON and RAD parking and would not result in the construction of new buildings or other structures that could result in exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death as a result of strong seismic ground shaking. All construction would be designed in accordance with the provisions of the Uniform Building Code (UBC) and the Los Angeles Building Code (LABC). Therefore, potential impacts associated with strong seismic ground shaking would be less than significant, and no mitigation measures are required.

iii.Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is a seismic hazard that occurs when strong ground shaking causes saturated granular soil (such as sand) to liquefy and lose strength. The susceptibility of soil to liquefy tends to decrease as the density of the soil increases and the intensity of ground shaking decreases. As indicated in the LAX Master Plan EIR, the depth to groundwater at LAX is generally greater than 90 feet, which would indicate that the site has a very low susceptibility to liquefaction. However, perched groundwater has been noted at several locations and these areas could be subject to liquefaction; however, the overall potential for liquefaction at LAX is considered low.[19]

Strong ground shaking will also tend to densify loose to medium dense deposits of partially saturated granular soils and could result in seismic settlement of foundations and the ground surface at LAX. Due to variations in material type, seismic settlements would tend to vary considerably across LAX,

[16] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[17] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[18] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[19] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

but are generally estimated to be between negligible and 0.5 inch; the overall potential for damaging seismically-induced settlement is considered to be low.[20]

Seismically-induced ground shaking can also cause slope-related hazards through various processes including slope failure, lateral spreading,[21] flow liquefaction, and ground lurching.[22] Because the Project site is flat and existing slopes in the LAX vicinity are relatively small in area and of low angle and height (less than 15 feet) the overall potential for such failures is considered to be low.[23]

The California Department of Conservation (CDC) is mandated by the Seismic Hazards Act of 1990[24] to identify and map the state's most prominent earthquake hazards in order to help avoid damage resulting from earthquakes. The CDC's Seismic Hazard Zone Mapping Program charts areas prone to liquefaction and earthquake-induced landslides throughout California's principal urban and major growth areas. According to the Seismic Hazard Map for the Inglewood Quadrangle, no potential liquefaction zones are located within the LAX area. Isolated zones of potential seismic slope instability are identified within the dune area to the west of the Project site.[25] Given the Project site's flat topography, it would not be subject to slope instability and the potential instability within the dune area to the west would not pose a risk to the Project site.

In summary, the potential for seismic-related ground failure at the Project site is considered low. As part of the proposed Project, all construction would be designed in accordance with the provisions of the UBC and the LABC. Further, the proposed Project would provide additional RON and RAN parking and no new structures would be constructed. Therefore, potential impacts associated with seismic-related ground failure would be less than significant, and no mitigation measures are required.

iv. Landslides?

No Impact. The Project site is flat and the City of Los Angeles Landslide Inventory and Hillside Areas map does not identify any areas in the vicinity of the Project site that contain unstable slopes which may be prone to seismically-produced landslides.[26] Implementation of the proposed Project would not result in the exposure of people or structures to the risk of landslides during a seismic event. Therefore, no impacts resulting from landslides would occur, and no mitigation measures are required.

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

Less Than Significant Impact. As indicated in the LAX Master Plan EIR, the potential for soil erosion is low due to the flat topography of the Project site. Further, the majority of the Project site currently consists of bare ground and is used for construction staging. Conformance with LABC

[20] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[21] Lateral Spreading: Deformation of very gently sloping ground (or virtually flat ground adjacent to an open body of water) that occurs when cyclic shear stresses caused by an earthquake induce liquefaction, reducing the shear strength of the soil and causing failure and "spreading" of the slope.

[22] Ground Lurching: Ground lurching (and related lateral extension) is the horizontal movement of soil, sediments, or fill located on relatively steep embankments or scarps as a result of earthquake-induced ground shaking. Damage includes lateral movement of the slope in the direction of the slope face, ground cracks, slope bulging, and other deformations.

[23] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[24] Public Resources Code 2690-2699.6.

[25] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[26] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit C, Landslide Inventory & Hillside Areas In the City of Los Angeles, June 1994.

Sections 91.7000 through 91.7016, which include construction requirements for grading, excavation, and use of fill, would reduce the potential for wind or waterborne erosion. In addition, the LABC requires an erosion control plan that is reviewed by the Department of Building and Safety prior to construction should grading exceed 200 cubic yards and occur during the rainy season (between November 1 and April 15). The Project applicant, LAWA, would be required to prepare an erosion control plan to reduce soil erosion. Therefore, proposed Project impacts related to soil erosion are anticipated to be less than significant, and no mitigation measures are required.

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

Less Than Significant Impact. Settlement of foundation soils beneath engineered structures or fills typically results from the consolidation and/or compaction of the foundation soils in response to the increased load induced by the structure or fill. As indicated in the LAX Master Plan EIR, the presence of undocumented and typically weak artificial fill at LAX creates the potential for settlement. The Lakewood Formation also includes some silt and clay layers prone to settlement. However, design features and construction methods can reduce the potential for excessive settlement at LAX, and the overall potential for damaging settlement is considered low.[27] See also Responses VI.a.iii and VI.a.iv above.

d. Be located on expansive soil, as defined in Table 18-1-B of the Los Angeles Building Code (2002), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are typically composed of certain types of silts and clays that have the capacity to shrink or swell in response to changes in soil moisture content. Shrinking or swelling of foundation soils can lead to damage to engineered structures including tilting and cracking. As indicated in the LAX Master Plan EIR, fill materials located in some portions of the LAX area could be prone to expansion.[28]

No new structures would be constructed as part of the proposed Project. All construction would occur in accordance with the LABC Sections 91.7000 through 91.7016, which include construction requirements for grading, excavation, and foundation work, the potential for hazards to occur as a result of expansive soils would be minimized. Therefore, proposed Project implementation would not result in significant impacts associated with expansive soils, and no substantial risks to life or property would occur, and no mitigation measures are required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project site is located in an urbanized area where wastewater infrastructure is currently in place. The proposed Project would not use septic tanks or alternative wastewater disposal systems. Therefore, the ability of on-site soils to support septic tanks or alternative wastewater systems would not be relevant to the proposed Project, and no mitigation measures are required.

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[27] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[28] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

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?

a-b. Less Than Significant Impact.

Analysis Methodology

Ongoing scientific research has identified the potential impacts on global climate change from anthropogenic (man-made) GHG emissions and changes in biological carbon sequestration due to land management activities. GHGs that contribute to global climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3), and hydrofluorinated ethers (HFE). Almost 90 percent of total GHG emissions in California are in the form of CO_2. When quantifying GHG emissions, the different global warming potentials (GWPs) of GHG pollutants are usually taken into account by normalizing their rates to a CO_2-equivalent emission rate (CO_2e). The reference gas for GWPs is CO_2; CO_2 has a GWP of one. The global warming potential of CH_4 and N_2O are 21 and 310 times that of CO_2, respectively.

For the proposed Project, the GHG of concern is primarily CO_2. Given that the primary emission sources for the proposed Southwest RON Apron Project are combustion sources associated with construction equipment, emissions of CO_2 from construction sources are estimated to represent 98 percent or more of the project-related GHG emissions. The methodology used to estimate GHG emissions of CO_2, is similar to the methodology used to estimate criteria pollutant emissions, as described above in Section III, Air Quality.

Peak daily air pollutant emissions inventories were developed for the Project's construction-related activities. Emissions estimates for CO_2 were developed for off-road construction equipment, on-road on-site construction equipment, and on-road off-site construction equipment. Emissions from off-road devices and on-road equipment were evaluated separately to account for the CARB's published emissions factors for both categories of equipment.

Off-road construction equipment includes heavy-duty construction equipment that is not licensed for travel on public roadways. Off-road equipment types, models, and horsepower ratings were determined by LAWA. Emission rates were obtained from the CARB off-road emission factor database for Los Angeles County. Off-road exhaust emission factors for CO_2 were developed using the CARB OFFROAD2007 Model.

On-road on-site equipment emissions are generated from on-site dump trucks, haul trucks, and other on-road vehicles. Exhaust emissions from on-road on-site sources were calculated using emission factors from the CARB emission factor model EMFAC2007, Version 2.3.

Total emissions for on-road off-site equipment were calculated using the same methodology assumed for on-road on-site vehicles. In general, the EMFAC2007 emissions factors were multiplied by the total VMT for each vehicle type to obtain emissions in pounds per day.

Thresholds of Significance

For the purposes of this Initial Study, and in accordance with Appendix G of the CEQA Guidelines, an impact to GHG emissions is considered significant if the proposed Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

In addition to the above guidelines, determination of significant impacts related to GHG emissions took into consideration the SCAQMD Interim CEQA GHG Significance Threshold Draft Guidance Document that was adopted on December 5, 2008. In the proposed SCAQMD Interim CEQA GHG Significance Threshold Draft Guidance Document, a screening significance threshold of 10,000 metric tons (MT) of CO_2e per year was proposed for emissions associated with a stationary/industrial source project, which included construction emissions amortized over 30 years and added to operational GHG emissions. Therefore, industrial projects that emit less than 10,000 MT of CO_2e per year may be considered less than significant. Since there are currently no formally adopted significance thresholds for daily GHG emissions for either construction or transportation operations, Project emissions were compared to the 10,000 MT of CO_2e interim threshold for informational purposes only.

LAWA Construction Sustainability Guidelines Incorporated into the Southwest RON Apron Project

The Southwest RON Apron Project would incorporate applicable construction guidelines outlined in the *LAWA-Sustainable Airport Planning, Design and Construction Guidelines (LSAG).*[29] The guidelines will be incorporated into the Southwest RON Apron Project by including them as specifications in bid documents issued to potential construction contractors. These sustainability guidelines related to GHGs include but are not limited to:

- Vehicle Idling Plan: The contractor would develop a plan to reduce potential air pollutant emissions associated with implementation of the Southwest RON Apron Project. The plan would include but not be limited to prohibiting construction vehicle idling in excess of idling limits, a vehicle idling inspection program, idle reduction technology, and signage for no-idling areas.
- Low-Emission Construction Vehicles: The construction vehicles would meet the current California Low-Emission Vehicle Standards and comply with the SCAQMD's Fleet Rules 1191 and 1196[30] and Department of Motor Vehicles regulations.
- Retrofit Construction Vehicles: The contractor would retrofit construction vehicles and equipment to reduce emissions from older construction vehicles and equipment, including criteria pollutants, HAP, and GHGs by using technologically feasible and fuel-efficient options.

[29] Los Angeles World Airports. 2010 Los Angeles World Airports Sustainable Airport Planning, Design and Construction Guidelines Version 5.0, February.
[30] South Coast Air Quality Management District. SCAQMD List of Current Rules. Available: http://www.arb.ca.gov/drdb/sc/cur.htm, Accessed October 6, 2010.

- Alternative Transportation During Construction: The contractor would provide alternative transportation such as an on-site shuttle, carpooling, and ride-sharing incentives during construction to reduce personal vehicle emissions, congestion, and oil consumption.
- Low-Emission Construction Equipment: The contractor would develop and implement plans that insure that construction equipment used during construction is in compliance with CARB regulations.

Impacts Analysis

Construction of the proposed Project would not contribute a considerable amount of GHG emissions, either directly or indirectly, nor would the proposed Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The total GHG emissions from construction activities associated with the proposed Southwest RON Apron Project are estimated to be 2,803 MT of CO_2e. The total construction period for the Project is estimated to be approximately one year. As such, the total CO_2e emissions of the Project are substantially less than the 10,000 MT of CO_2e per year suggested in the SCAQMD Interim CEQA GHG Significance Threshold Draft Guidance Document as a screening level threshold of significance for stationary/industrial source projects. In that regard, it should be noted that the subject proposed threshold includes both the operational emissions and the construction emissions as amortized over 30 years. The Southwest RON Apron Project would have no operational emissions and the total construction emissions amortized over 30 years would equal approximately 93 MT of CO_2e per year. Based on the above, the GHG emissions associated with the proposed Project would be less than significant.

The construction of several ongoing and anticipated future projects at LAX would potentially occur simultaneously with Southwest RON Apron Project construction. Projects that were considered in the cumulative air-quality analysis include:

- Bradley West Project;
- Security Program -- In-Line Baggage Screening System (T6);
- Airfield Intersection Improvements
- CUP Replacement Project;
- CTA Elevators and Escalators Replacement;
- CTA Seismic Retrofits and Related Improvements;
- Miscellaneous Construction and Maintenance Activities; and
- Interim Taxiway Safety Improvement Project (ITSIP).

The cumulative CO_2e emissions from construction of these projects are summarized in **Table 7**.

Table 7

Cumulative Construction Project Emissions of CO_2e (metric tons)

Construction Project	CO_2e (metric tons)
Bradley West Project[1]	96,952
Security Program - In-Line Baggage Screening Systems (T6)[1]	73
Airfield Intersection Improvements[1]	2,048
Central Utility Plant Replacement Project[2]	15,186
CTA Elevators and Escalators Replacement[1]	528
CTA Seismic Retrofits and Related Improvements[1]	555
Miscellaneous Construction and Maintenance Activities[3]	543
Interim Taxiway Safety Improvement Project	3,244
Total CO_2e Emissions[4]	***119,129***
Southwest RON Apron Project Total Annual Emissions	**2,803**
Total Cumulative Construction Project Emissions	**121,932**
Annual Cumulative Construction Project Emissions Amortized Over 30 Years	**4,064**
Percentage of Southwest RON Apron Project Contribution to Cumulative Emissions	**2.3%**

Sources:

[1] *City of Los Angeles, Los Angeles World Airports. 2009.* Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), *September.*

[2] *City of Los Angeles, Los Angeles World Airports. 2009.* Final Environmental Impact Report for Central Utility Plant Replacement Project, Los Angeles International Airport (LAX), *October.*

Notes:

[3] Includes work trips for projects that have no other notable construction equipment, including the Terminal/Apron Electrical Service Capacity Upgrade.

[4] Total assumes emissions overlap. Emissions may actually occur in different time periods between projects.

As indicated in **Table 7**, the cumulative construction-related CO_2e emissions would be 119,129 MT, of which the proposed Southwest RON Apron Project would contribute 2.3 percent. There are currently no widely accepted quantitative thresholds for defining significant impacts related to GHG emissions.

As described above, the *SCAQMD Interim CEQA GHG Significance Threshold Draft Guidance Document* recognizes 10,000 MT of CO_2e per year as a screening level threshold of significance for stationary/industrial source projects, which includes construction emissions as amortized over 30 years. The total CO_2e emissions associated with the cumulative construction activities summarized in **Table 7** would equate to approximately 4,064 MT per year, which is less than the draft SCAQMD screening level threshold. Additionally, the proposed Southwest RON Apron Project's contribution to the total emissions is not felt to be cumulatively considerable. The Project's relatively low level of CO_2e emissions is less than significant and will be further reduced through compliance with the *LAWA-Sustainable Airport Planning, Design and Construction Guidelines (LSAG)*, which are intended to reduce the individual and cumulative GHG emissions of LAWA projects including those associated with construction activities. Based on the above, implementation of the proposed Southwest RON Apron Project would not result in a cumulatively considerable impact related to GHG emissions.

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?

a-b. Less Than Significant Impact. Construction and operation of the proposed Project would involve some use of potentially hazardous materials, including vehicle fuels, oils, transmission fluids, and cleaning solvents related to fueling and servicing equipment on-site, the transport of fuels, lubricating fluids, and solvents, and minor mechanical repairs. These types of materials are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated. As indicated in the LAX Master Plan EIR, compliance with existing federal, state and local regulations and routine precautions would reduce the potential for accidental releases of a hazardous material to occur and would minimize the impact of an accident should one occur.[31] As such, construction and operation of the proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and no mitigation measures are required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. As discussed in greater detail under Response No. VIII.a-b above, construction and operation of the proposed Project would result in the handling of hazardous materials. However, there are no schools located or proposed within one-quarter mile of the Project site. Therefore, no impact would occur, and no mitigation measures are required.

[31] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.23, April 2004.

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?

Less Than Significant Impact. The LAX Master Plan Final EIR does not identify any known contamination sites or sites with on-going remediation at the Project site.[32] Further, the Project site is not listed in the State Water Resources Control Board GeoTracker system, which includes leaking underground fuel tank sites and Spills, Leaks, Investigations, and Cleanups sites; or the Department of Toxic Substances Control EnviroStor Data Management System, which includes CORTESE sites. The GeoTracker and EnviroStor systems identify sites located to the north, and south of the Project site, located to the north along World Way West and to the south along Imperial Highway. These sites include active and closed leaking underground storage tank cleanup sites, other cleanup sites, and permitted underground storage tanks. Cleanup sites listed as active in the GeoTracker and EnviroStor systems include the LAXFUEL farm identified as undergoing remediation of groundwater contamination associated with a leaking underground storage tank, and groundwater contamination associated with a former Continental Airlines maintenance facility. Both sites are located to the north of the Project site near World Way West.

Although there is no known contamination on the Project site, a preliminary site assessment, also known as a "Phase I Site Assessment," will be completed to further assess the past and present use of the site relative to hazardous materials and contamination. Should the results of the assessment indicate that there is the potential for contamination to exist at the site, further evaluation in the form of a "Phase II Site Assessment" would be conducted, which would include subsurface sampling and laboratory analysis as appropriate. Should that additional evaluation confirm the presence of contamination exceeding regulatory limits, a remediation plan will be prepared and implemented prior to, or in conjunction with, site preparation.

In the event soil contamination or other hazardous material is unexpectedly encountered during construction, appropriate measures would be implemented in accordance with the LAWA *Procedure for the Management of Contaminated Materials Encountered During Construction* (December 2005), which include stopping grading/construction activities within and near the area of contamination and securing it relative to protection of health, safety and the environment, conducting a field assessment of the conditions, taking samples of the suspect soil/material for laboratory analysis, notification of appropriate regulatory agencies, and identification and implementation of appropriate remediation measures. Adherence to health and safety regulations would reduce the potential for creating a hazard to the public or the environmental to a level less than significant, and no mitigation measures are required.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact. The Project site is located within a public airport. Numerous safeguards are required by law to minimize the potential for and the effects from an accident if one were to occur. FAA's Airport Design Standards establish, among other things, land use related guidelines to protect people and property on the ground, including establishment of safety zones that keep areas near

[32] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.23, April 2004.

runways free of objects that could interfere with aviation activities. City of Los Angeles Ordinance No. 132,319 regulates building height limits and land uses within the Hazard Area established by the Planning and Zoning Code to protect aircraft approaching and departing from LAX from obstacles. In addition to the many safeguards required by law, LAWA and tenants of LAX maintain Emergency Response and Evacuation Plans that also serve to minimize the potential for and the effects of an accident.

The proposed Project would be designed to ensure that airplanes exiting and entering the site could do so safely without posing a risk to other aircraft or vehicles and that adequate maneuvering area is provided. The proposed Project would not increase the existing employment or passenger capacity at LAX. Therefore, the proposed Project would not result in a significant impact with regard to safety for people working in the Project area, and no mitigation measures are required.

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

No Impact. The Project site is not located within the vicinity of a private airstrip but rather within a public airport. See Response No. VIII.e. above.

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

Less Than Significant Impact. LAWA and tenants of LAX maintain Emergency Response Evacuation Plans to minimize the potential for and the effects of an accident, should one occur. During construction of the proposed Project, access to the site and the surrounding areas would be kept clear and unobstructed at all times during construction in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. Operation of the proposed Project would be similar to operations currently occurring at other RON/aircraft maintenance areas within the airport and would not interfere with adopted Emergency Response Evacuation Plans. Therefore impacts to emergency response plans or emergency evacuation plans associated with the proposed Project would be less than significant, and no mitigation measures are required.

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

No Impact. The Project site is located within a developed airport and is surrounded by airport uses, urbanized areas, and the Los Angeles/El Segundo Dunes. It is not within a City of Los Angeles Wildfire Hazard Area, as delineated in the Safety Element of the General Plan.[33] Therefore, implementation of the proposed Project would not result in the exposure of people or structures to hazards associated with wildland fires, and no mitigation measures are required.

[33] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit D, Selected Wildfire Hazard Areas In the City of Los Angeles, April 1996.

IX. HYDROLOGY AND WATER QUALITY. *Would the project:*

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

Less Than Significant Impact. The Project site is undeveloped and has been used for construction staging for several years. Potential sources of pollutants to surface water include disturbed soils that can contribute to sedimentation and possibly limited surficial hydrocarbon contamination from construction equipment having been previously stored and serviced (i.e., fueling, cleaning and lubrication of equipment joints, minor repairs, etc.), in the general area. Development of the proposed Project would convert the site to an aircraft apron area. Potential sources of pollutants to surface water once the site is developed would include the possibility of hydrocarbons from parked aircraft, and detergents and sediments associated with the washing of aircraft.

The potential for water pollutant discharges during construction activities would be addressed and reduced to a level that is less than significant through compliance with the California State Water Resources Control Board (SWRCB) General (Construction) Permit (2009-0009-DWQ). Such compliance includes the preparation and submittal of a Storm Water Pollution Prevention Plan (SWPPP) that details the measures and Best Management Practices (BMPs) to be implemented throughout the construction period.

The potential for water pollutant discharges during ongoing operation of the Project would be addressed and reduced to a level that is less than significant through compliance with the City of Los Angeles Standard Urban Stormwater Mitigation Plan (SUSMP) requirements, as administered through the state Regional Water Quality Control Board's issuance of a Municipal Storm Water National Pollutant Discharge Elimination System Permit (NPDES Permit No. CAS004001) to the City. Additionally, surface water runoff associated with the washing of aircraft would drain into a special collection system that would route the runoff through a filter/recycling system for reuse and following several cycles of reuse, would discharge the runoff to the sanitary sewer system and not the storm drain system. Such discharge to sanitary sewer would require approval from the City of Los Angeles Bureau of Sanitation.

Based on the above, construction and operation of the proposed Project is not expected to violate any water quality standards or waste discharge requirements; hence, the impact is considered to be less than significant, and no mitigation measures are required.

b. Substantially deplete groundwater supplies or interfere 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 land uses for which permits have been granted)?

Less Than Significant Impact. As indicated in the LAX Master Plan EIR, the Project site is located within the West Coast Groundwater Basin. Groundwater beneath LAX is not used for municipal or agricultural purposes.[34] Construction and operation of the proposed Project would not require the use of groundwater and, thus, would not deplete groundwater supplies. The majority of the Project site consists of disturbed, undeveloped pervious areas. The Project would, therefore, result in a net increase in

[34] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

impervious area and an associated decrease in the volume of surface recharge within the LAX area when compared to existing conditions. However, the reduction in surface recharge would not substantially change the groundwater storage or groundwater elevation beneath LAX. Moreover, groundwater production would not be affected. In summary, impacts to groundwater supplies and recharge would be less than significant, and no mitigation measures are required.

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

Less Than Significant Impact. The Project site is flat with no water bodies and the proposed Project would not alter the course of a stream or a river. Construction of the proposed Project would result in some ground surface disruption activities, such as site grading. This could result in the potential for erosion to occur at the Project site. However, soil exposure would be temporary and short-term in nature and implementation of applicable erosion control techniques would limit potential erosion. No substantial erosion or siltation would occur; therefore, impacts would be less than significant, and no mitigation measures are required.

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

Less Than Significant Impact. The Project site is flat and is primarily pervious. The proposed Project would include paving the entire site, the majority of which is currently undeveloped. The paved site would be designed to minimize on-site surface runoff. This would occur through gently sloped pad grades and a curb around the edge of the site that, together, would capture and direct surface flows to the storm drain system. Water used for the proposed wash rack would be captured for re-use of water and subsequent discharge to the sanitary sewer system. Based on the above, it is not anticipated that the proposed Project would cause a substantial increase in the rate or amount of surface runoff resulting in flooding on- or off-site. Therefore, impacts would be less than significant, and no mitigation measures are required.

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?

Less Than Significant Impact. Please see Response No. IX.a. and d. above.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. Please see Response No. IX.a. above.

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

h. Place within a 100-year flood plain structures which would impede or redirect flood flows?

g-h. No Impact. As indicated in the LAX Master Plan EIR, no 100-year floodplain areas are located within the LAX Master Plan boundaries.[35] Further, the proposed Project does not involve the construction of housing. Therefore, no impacts resulting from the placement of housing or other structures within a 100-year floodplain would occur, and no mitigation measures are required.

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

No Impact. Please see Response No. IX.g-h above. In addition, as delineated on the City of Los Angeles Inundation and Tsunami Hazard Areas map,[36] the Project site is not within a boundary of an inundation area from a flood control basin. Further, the Project site is not located within the downstream influence of any levee or dam. Therefore, no impacts due to the exposure of people or structures to a risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam would occur, and no mitigation measures are required.

j. Inundation by seiche, tsunami, or mudflow?

No Impact. The Project site is located approximately 0.5 mile east of the Pacific Ocean and is not delineated as a potential inundation or tsunami impacted area in the City of Los Angeles Inundation and Tsunami Hazard Areas map.[37] Mudflows are not a risk as the Project site is located on, and is generally surrounded by, relatively level terrain and urban development. Therefore, no impacts resulting from inundation by seiche, tsunami, or mudflow are anticipated to occur, and no mitigation measures are required.

X. LAND USE AND PLANNING. *Would the project:*

a. Physically divide an established community?

No Impact. The Project site is located entirely within the boundaries of a developed airport in an urbanized area and development of the site would not disrupt or divide the physical arrangement of an established community. Thus, the proposed Project would not divide an established community and no mitigation measures are required.

[35] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.13, April 2004.

[36] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas In the City of Los Angeles, March 1994.

[37] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas In the City of Los Angeles, March 1994.

b. Conflict with 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, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. Land use designations and development regulations applicable to LAX are set forth in the LAX Plan[38] and LAX Specific Plan,[39] both approved by the Los Angeles City Council in December 2004. The Project site is in an area designated in the LAX Plan as "Airport Airside." Within the LAX Specific Plan, the Project Site is in an area designated as "LAX - A Zone Airport Airside Sub-Area." Section 9.B. of the Specific Plan delineates the permitted uses within the Airport Airside Sub-Area. Of the numerous uses listed, the following permitted uses relate most directly to the proposed Project:

2. (a) Aircraft under power;

2. (c) Airline maintenance and support, including but not limited to storage, aircraft engine or airframe repair and testing, and aircraft maintenance shops; and

2. (j) Runways, Taxiways, aircraft parking aprons, and service roads.

Based on the above, the aircraft parking and maintenance uses associated with the proposed Project are permitted uses and would not conflict with the applicable land use plan.

It should be noted that although the LAX Master Plan proposed that the Project site be developed as the "West Employee Parking" facility, the ability to develop such a facility in the future would not be precluded or substantially constrained by implementation of the Southwest RON Apron Project. The Southwest RON Apron would extend approximately 520 feet west from Taxiway AA, leaving the remaining area between Pershing Drive and the apron area available for development of the West Employee Parking facility. Additionally, the area southeast of where Taxiway AA crosses over World Way West was identified in the LAX Master Plan as a future aircraft maintenance area, but, instead, has been improved as an employee parking lot for American Airlines. Although the proposed Southwest RON Apron Project is not specifically a Master Plan project, it is generally compatible with the types of improvements contemplated in the Master Plan for the western portion of the airport.

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

No Impact. The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located to the west of the Project site, opposite Pershing Drive. The proposed Project would be located within an urbanized airport area adjacent to existing airport uses and would not affect the Dunes Specific Plan Area. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan or other natural community conservation plan that includes the Project site. Therefore, the proposed Project would not conflict with any such plan, and no mitigation measures are required.

[38] City of Los Angeles, Los Angeles World Airports, LAX Plan, September 29, 2004.
[39] City of Los Angeles, Los Angeles World Airports, Los Angeles International Airport Specific Plan, September 29, 2004.

XI. 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?

No Impact. The State Mining and Geology Board classifies mineral resource zones throughout the State. As indicated in the LAX Master Plan EIR, the Project site is contained within a MRZ-3 zone, which represents areas with mineral deposits whose significance cannot be evaluated from available data.[40] The Project site is within the boundaries of the airport and surrounded by airport-related uses. There are no actively-mined mineral or timber resources on the Project site, nor is the site available for mineral resource extraction given the existing airport use. Therefore, the proposed Project would not affect access to or the availability of valued mineral resources, and no mitigation measures are required.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The Project site is not within an area delineated on the City of Los Angeles Oil Field & Oil Drilling Areas map in the City of Los Angeles General Plan Safety Element.[41] Furthermore, the Project site is disturbed and in an area that is not available for mineral resource extraction due to the existing airport use. Therefore, the proposed Project would not affect the availability of a locally-important mineral resource recovery site, and no mitigation measures are required.

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

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

b. Exposure of people 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?

a-e. Less Than Significant Impact. Noise levels from outdoor construction activities, independent of background ambient noise levels, indicate that the noisiest phases of construction are typically during excavation and grading, and that noise levels from equipment with mufflers are typically 86 dBA L_{eq} at 50 feet from the noise source. As described in Section 4.1.2.4 of the LAX Master Plan EIR, this type of

[40] City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.17, April 2004.

[41] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit E, Oil Field & Oil Drilling Areas in the City of Los Angeles, May 1994.

sound typically dissipates at a rate of 4.5 dBA to 6.0 dBA for each doubling of distance. For the noise analysis of the proposed Project, the more conservative attenuation rate of 4.5 dBA is used. As such, a sound level of 86 dBA at 50 feet from the noise source would be approximately 81.5 dBA at a distance of 100 feet, 77 dBA at a distance of 200 feet, and so on. That sound drop-off rate does not take into account any intervening shielding or barriers such as structures or hills between the noise source and noise receptor.

Development and operation of the proposed Project would occur in an area generally removed from the communities near LAX. The nearest noise-sensitive land use is residential development approximately 2,300 feet to the south in El Segundo. Based on a noise attenuation rate of 4.5 dBA per doubling of distance, the noise levels from construction activities within the Project site would be approximately 61 dBA L_{eq} at the residential area in El Segundo. The existing daytime ambient noise level at the nearest sensitive receptor (i.e., residential development in El Segundo south of Imperial Highway) is approximately 65 dBA L_{eq} or higher, with the nighttime ambient noise level being approximately 5 dBA lower. The noise level from construction activity within the Project site would not exceed the existing ambient noise level by 5 dBA and is therefore considered to be a less-than-significant noise impact, and no mitigation measures are required.

Operational noise associated with the proposed Project would be primarily from aircraft taxiing to and from, as well as within, the RON area. Such noise would be comparable to that associated with aircraft taxing operations throughout the airport, including within the West Remote Pads/Gates area and along Taxiway AA, which extends along the east boundary of the RON and connects the north and south runway complexes. Operational noise would also occur in conjunction with aircraft maintenance activities at the site; however, such activities would generally be of a light-duty nature and not noise intensive. Given the location of the Project site being well-removed from noise sensitive uses and nature of the proposed activities being similar to other such activities occurring throughout the airport, the operational noise impacts are considered to be less than significant, and no mitigation measures are required.

Neither construction nor operation of the proposed Project would generate notable levels of ground borne vibration.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within the vicinity of a private airstrip, but rather within a public airport. However, those residing or working in the Project area may be exposed to excessive noise levels as indicated in Response No. XII.a-e above.

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)?

No Impact. The proposed Project would provide RON parking, which could also be used for light aircraft maintenance. The proposed Project does not include residential or business development. Therefore, the proposed Project would not directly induce population growth. The proposed Project would

not increase the existing employment at LAX nor would it result in, or contribute to, exceeding passenger or cargo capacity as projected under the approved LAX Master Plan (78.9 million annual passengers [MAP] and 3.1 million annual tons). Thus, the proposed Project is not anticipated to result in substantial direct or indirect growth in population and housing, and no mitigation measures are required.

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?

b-c. No Impact. The proposed Project is located within a public airport and would not displace any existing housing or people. Thus, no impact would occur, and no mitigation measures are required.

XIV. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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?*

a. Fire protection?

Less Than Significant Impact. The City of Los Angeles Fire Department provides fire protection services throughout LAX, including the Project site. Three LAFD fire stations are located on LAX (Fire Station Nos. 80, 51, and 95). The closest to the Project site is the new Fire Station No. 80, located less than one mile to the east. The Project site is currently within the area served by Fire Station 80 and would not include construction of any new structures that could pose an increased fire risk. Further, the proposed Project would comply with all applicable City, state, and federal codes and ordinances. Therefore, the proposed Project would not result in any substantial increase in demand for fire protection services that may result in the need for new or altered fire protection services. Accordingly, no significant impacts related to fire protection services are anticipated, and no mitigation measures are required.

b. Police protection?

No Impact. Both the Los Angeles World Airports Police Division (LAWAPD) and the City of Los Angeles Police Department LAX Detail (LAPD LAX Detail) provide police protection services to LAX, including the Project site. The LAWAPD is located just east of the CTA and the LAPD LAX Detail station is also located on the east side of the airport. Demand for on-airport police protection services is typically determined by increases in aircraft activity and employees. As discussed in Response No. XIII.a. above, the proposed Project would not increase existing employment or passenger capacity at LAX. Therefore, no impacts on airport police protection services are expected with implementation of the proposed Project, and no mitigation measures are required.

c. Schools?

No Impact. The proposed does not include residential development, which could contribute to increases in school enrollment. Further, the proposed Project would not directly physically impact/alter any public schools. As discussed in Response No. XIII.a. above, the proposed Project would not increase existing passenger capacity or employment. As a result, there would be no indirect growth that would

impact schools. Since the proposed Project would not include residential development or directly or indirectly increase employment or existing passenger capacity, no enrollment increases would occur. Therefore, no impacts to or need for new school facilities would occur, and no mitigation measures are required.

d. Parks?

No Impact. The proposed Project does not include residential development, which could contribute to increases in park demand. Further, the proposed Project would not directly physically impact/alter any public park or recreation areas. As discussed in Response No. XIII.a. above, the proposed Project would not increase employment or existing passenger capacity. Since the proposed Project does not include residential development and would not directly or indirectly increase employment or passenger capacity, additional demand for parks would not occur. Therefore, no impacts to parks would occur, and no mitigation measures are required.

e. Other governmental services (including roads)?

No Impact. The proposed Project involves the addition of new RON and RAD parking facilities and maintenance area and does not include residential development, nor would it increase employment or passenger capacity that could directly or indirectly contribute to increases in demand for governmental services such as libraries or roadway capacity. Therefore, no impacts to other governmental facilities would occur, and no mitigation measures are required.

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?

a-b. No Impact. The proposed Project does not include development of recreational facilities nor does it include residential development. As discussed in Response No. XIII.a. above, the proposed Project would not increase employment or passenger capacity at LAX. Since the proposed Project does not include residential development or increase the number of employees or amount of passenger capacity, there would be no increase in demand for neighborhood and regional parks or other recreational facilities. Therefore, the proposed Project would not result in substantial physical deterioration of existing area recreational facilities or require the construction or expansion of recreational facilities, and no mitigation measures are required.

XVI. TRANSPORTATION/CIRCULATION. *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?

Less Than Significant Impact.

Traffic Generated By Proposed Project

Implementation of the proposed Southwest RON Apron Project would result in temporary construction-related traffic generation; however, there would be no operations-related vehicle traffic associated with the Project. Construction-related vehicle trips would include worker commute trips, truck delivery and haul trips, and miscellaneous trips. The typical number of daily trips would vary by construction phase, with the six main phases of Project construction being Demolition, Stockpile Removal, Subgrade Preparation, Underground Utilities, Paving, and Miscellaneous Work (i.e., saw cutting of concrete joints, installation of RON kits, installation of flood lights, installation of clarifier system, apron striping, etc.).

The average number of construction workers commuting to and from the Project site is estimated to be approximately 30 to 40 per day. Based on a vehicle occupancy factor of 1.15 workers per vehicle, this would result in approximately 26 to 35 vehicle trips per day. Worker parking would be provided at or adjacent to the Project site within the western portion of the airport; hence, no shuttling of workers between the work area and the parking area would be needed. Deliveries to the site are estimated to average approximately 5 to 10 trucks per day. For the purpose of evaluating traffic impacts, truck trips were converted to "passenger car equivalents" (PCEs) to account for the additional impact that large vehicles would have on roadway traffic operations. A PCE factor of 2.5 was applied to truck trips; hence, the number of truck trips described above would equate to approximately 15 to 25 vehicle trips per day. It should be noted that the estimated number of truck delivery trips associated with the proposed Project is substantially less than what would otherwise occur on this type of improvement project because the Southwest RON Apron Project includes an on-site concrete batch plant. Having such a facility adjacent to the Project site substantially reduces, if not eliminates, the need for numerous truck trips to deliver concrete from an off-airport batch plant. Also, construction of the proposed Project would have the ability to access aggregate materials previously generated at LAX by an on-airport crusher that processes concrete and asphalt removed as part of other airfield improvement projects at LAX (i.e., the LAX Crossfield Taxiway Project and taxiway and apron relocations associated with the Bradley West Project). Such recycled concrete and asphalt can be used as base material and as aggregate for concrete, which also reduces truck trips otherwise needed to deliver such materials to the site. Miscellaneous trips are estimated to average about 5 to 10 vehicles per day (i.e., 5 to 10 light-duty vehicles or 2 to 4 trucks or a combination thereof). Based on the above, the combined number of commute, delivery, and miscellaneous trips is estimated to average approximately 51 to 70 round-trips per day.

The above trip generation characteristics are considered to be generally representative of the majority of the construction program for the Project, with one notable exception. During the Stockpile Removal phase, which would occur near the beginning of construction, it is estimated that approximately 169 truck trips per day over the course of 55 days would be needed to remove the 185,000 cubic yard of

material currently on the site. This would equate to approximately 425 passenger vehicle round trips per day. An estimated 10 worker commute round trips per day would also occur during that period.[42]

In the interest of avoiding traffic impacts during the typical morning and afternoon peak commute periods, which are defined as 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m., respectively, the proposed Southwest RON Apron Project would include certain requirements in the construction specifications and contracts to avoid project-related trips during those hours. Those requirements are as follow:

- Construction Employee Shift Hours. Shift hours that do not coincide with the heaviest commuter traffic periods (7:00 a.m. to 9:00 a.m., 4:30 p.m. to 6:30 p.m.) will be established.
- Designated Truck Delivery Hours. Truck deliveries shall be encouraged to use night-time hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.

Impacts Analysis

The following analysis of traffic impacts associated with the Southwest RON Apron Project includes in summary form, and incorporates by reference, portions of the construction traffic analysis for the LAX Bradley West Project, as presented in the *Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project* (SCH 2008121080 - September 2009). The analysis also includes and incorporates by reference information from the traffic analysis for the LAX Central Utility Plant (CUP) Replacement Project, as presented in the *Final Environmental Impact Report for the Los Angeles International Airport (LAX) Central Utility Plant Replacement Project* (SCH 2009041043 - October 2009. Both EIRs can be viewed online at www.ourlax.org or as a hard-copy at One World Way, Los Angeles, CA (i.e., LAWA Administrative Office at LAX) - ask for the Facilities Planning Division. Relevant information from the Bradley West Project Final EIR pertains primarily to the discussions of the affected circulation system, existing traffic conditions, project impacts, and mitigation of potentially significant traffic impacts. Relevant information from the CUP Replacement Project Final EIR pertains primarily to cumulative traffic impacts.

Similar to the construction traffic impacts analyses completed for other development projects at LAX, such as the South Airfield Improvement Project, the Crossfield Taxiway Project, the Bradley West Project, and the CUP Replacement Project, the focus of the analysis for the Southwest RON Apron Project is on impacts to local intersections, which are measured in terms of changes to volume to capacity (v/c) ratios and the corresponding level of service (LOS). Levels of service definitions, as tied to v/c ratios, are presented in **Table 8**.

[42] The number of workers associated with the Stockpile Removal phase of construction is much lower than during other phases because the number of on-site construction equipment involved in this phase is relatively few (i.e., two front-end loaders, an excavator, and a water truck). Although that phase also includes the operation of numerous dump/haul trucks, the workers associated with that trucking activity would be the operators of the trucks, which would not have worker commute trips to and from the Project site.

Table 8

Level of Service Thresholds and Definitions for Signalized Intersections

Level of Service (LOS)	Volume/Capacity Ratio Threshold	Definition
A	0 - 0.6	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.7	VERY GOOD. An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.8	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.9	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.0	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than - 1.0	FAILURE. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

In evaluating project-related traffic impacts, an impact is considered to be significant if one of the following thresholds is exceeded:

- The LOS is C, its final v/c ratio is 0.701 to 0.80, and the project-related increase in v/c is 0.040 or greater, or
- The LOS is D, its final v/c ratio is 0.801 to 0.90, and the project-related increase in v/c is 0.020 or greater, or
- The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.010 or greater.

Affected Circulation System

The Project site is located in the western portion of LAX and access to the site, for workers, deliveries, and miscellaneous trips, would be via Pershing Drive or World Way West immediately off of Pershing Drive. Access to Pershing Drive adjacent to LAX is provided from the north primarily by Westchester Parkway and from the south by Imperial Highway, both of which connect with Sepulveda

Boulevard and to other roads to the east. Regional access is provided via Interstate 405 (I-405) and Interstate 105 (I-105). The following briefly describes each of those roadways.

- I-405 (San Diego Freeway) - This north-south freeway provides regional access to the airport and the surrounding area. Access to the airport area is provided via ramps at Howard Hughes Parkway, Century Boulevard, I-105, Imperial Highway, and three locations along La Cienega Boulevard.
- I-105 (Glenn M. Anderson or Century Freeway) - Along with Imperial Highway (described below), this east-west freeway extends from the San Gabriel Freeway (I-605) on the east to Sepulveda Boulevard on the west. Access to the airport area is provided via ramps at Sepulveda Boulevard and along Imperial Highway.
- Imperial Highway - This east-west roadway is located at-grade and beneath much of the elevated I-105 freeway. The number of lanes on this roadway varies from six-lanes east of the merge with I-105 to four-lanes west of the merge with I-105. Imperial Highway, along with the segment of Pershing Drive between Imperial Highway and World Way West, is the primary route for truck trips to and from the western portion of the airport. Various improvements along Imperial Highway are currently underway as mitigation measures for construction traffic impacts associated with the Bradley West Project, including construction of a second left-turn lane at Main Street (i.e., to provide dual left-turn lanes on westbound Imperial Highway to southbound Main Street) and construction of a second right-turn lane at Pershing Drive (i.e., to provide dual right-turn lanes on westbound Imperial Highway to northbound Pershing Drive). The improvement at Main Street was completed in late January 2011 and the improvement at Pershing Drive is scheduled to be completed in March 2011.
- Pershing Drive - This north-south four-lane divided roadway forms the western boundary of the construction traffic analysis study area. The roadway serves as the exclusive access route for delivery trucks accessing the West Construction Staging Area. A new traffic signal is being installed on Pershing Drive approximately 1,900 feet south of World Way West to provide controlled access to and from the Bradley West Project construction staging and parking area located adjacent to the Southwest RON Apron area. The signal installation is schedule to be complete by March 2011.
- World Way West - This two- to four-lane roadway extends east from Pershing Drive and provides primary access to the LAWA building and tenant facilities in the western portion of the airport. Immediately east of its interchange with Pershing Drive are several driveways that provide access to and from various construction staging and parking areas situated along the south side of the road. This portion of roadway has three lanes in each direction.
- Westchester Parkway - This east-west four-lane divided arterial roadway extends through the northern portion of the airport.
- Sepulveda Boulevard (State Route 1 south of Lincoln Boulevard) - This major north-south six-lane arterial roadway provides direct access to the airport and Bradley West Project study area via I-405 and Westchester Parkway on the north and via I-105 on the south. Sepulveda Boulevard between I-105 and Century Boulevard is located in a tunnel section beneath the south airfield runways.

The Project construction site, construction staging area, and construction parking area would all be located in the same general area at the western end of the airport. As such, all project-related trips to and from the site would basically end at, or start from, Pershing Drive near World Way West. In assigning traffic to the surrounding roadway network, it was assumed that construction vehicles, consisting of delivery trucks and construction employee automobiles, would approach the study area in proportion to the regional distributions assumed for other recent development projects at LAX (i.e., Crossfield Taxiway Project and Bradley West Project). Based on such regional distributions, it is estimated that approximately 21 percent of the construction-related traffic would access the airport from I-405 north, 23 percent from I-405 south, 32 percent from I-105 east, and 24 percent from local roadways. Given the location of the Project site and its direct access to and from Pershing Drive, it is anticipated that the majority of construction-related traffic on I-405 and I-105 would utilize Imperial Highway as the connection between Pershing Drive and the regional freeway system. This would be particularly true relative to truck trips, given that Pershing Drive between World Way West and Imperial Highway and Imperial Highway east of Pershing Drive is a designated truck route used by the vast majority of construction traffic to and from the west side of the airport. In providing a very conservative (worst-case) analysis, it was assumed that 100 percent of the vehicle trips associated with the Southwest RON Apron Project would occur via Imperial Highway. To the extent that some project-related worker commute trips use other routes in the nearby area, the impacts at intersections along Imperial Highway would be less than presented herein. Additionally, as further described in the Impacts discussion below, the intersection of Aviation Boulevard and 111th Street is of interest because of the potential for existing soils stockpiled at the Project site to be transported to the Continental City site for disposal. Intersections along the primary access route for the Southwest RON Apron Project, and as related to Continental City, include the following:

- Imperial Highway and Pershing Drive
- Imperial Highway and Main Street
- Imperial Highway and Sepulveda Boulevard
- Imperial Highway and Nash Street
- Imperial Highway and Douglas Street
- Imperial Highway and Aviation Boulevard
- Imperial Highway and La Cienega Boulevard
- Imperial Highway and I-105 Ramp
- Imperial Highway and I-405 Northbound Ramp
- Aviation Boulevard and 111th Street

Existing Traffic Conditions

As indicated above, the proposed Project would include contract requirements that serve to avoid construction-related traffic during the peak commute periods. Based on a review of the traffic activity levels for other construction projects at LAX with such contract requirements, it is anticipated that the project-related traffic peak hours would be as follows:

- **Project Construction A.M. Peak Hour (6:00 a.m. to 7:00 a.m.)** - The project construction a.m. peak hour represents the peak period for construction workers arriving to the project site. Based on review of employee schedules of other similar projects at LAX, employees are likely to arrive between 5:00 a.m. and 6:00 a.m. However, it was assumed for analysis purposes that peak period volumes between 6:00 a.m. and 7:00 a.m. in combination with peak employee activity would produce a more conservative estimate of activity in the event that the future construction contractor chooses to allow employee arrivals up to the desired "cut-off" time of 7:00 a.m., just prior to the start of the morning peak commute period.
- **Project Construction P.M. Peak Hour (3:30 p.m. to 4:30 p.m.)** - The project construction p.m. peak hour of 3:30 p.m. to 4:30 p.m. represents the peak period for construction employees leaving the project site, notwithstanding the likelihood that workers arriving at the project site between 5:00 a.m. and 6:00 a.m. would leave sooner than that (i.e., the impacts analysis conservatively assumes that all workers leave the site during the 3:30 p.m. to 4:30 p.m. peak hour).

Delivery truck trips and miscellaneous trips are anticipated to occur periodically throughout the work day, except for the morning and afternoon peak commute hours due to the aforementioned contract requirements.

Based on the Project construction a.m. and p.m. peak hour periods described above, the existing traffic conditions around the Project site, particularly at the potentially affected intersections along Imperial Highway, were determined for those hours. The Bradley West Project Final EIR describes in detail the local traffic data developed through 2008 traffic counts and adjusted to represent the existing traffic conditions during the Project construction a.m. and p.m. peak hour periods (6:00 a.m. to 7:00 a.m. and 3:30 p.m. to 4:30 p.m.). **Table 9** summarizes the existing (Baseline) traffic conditions at the nine intersections of interest along Imperial Highway.

Table 9

Baseline Traffic Conditions At Intersections Along Imperial Highway

Intersection	Peak Hour[1]	V/C[2]	LOS[3]
Imperial Hwy. & Pershing Dr.	Construction AM	0.481	A
	Construction PM	0.434	A
Imperial Hwy. & Main St.	Construction AM	0.405	A
	Construction PM	0.716	C
Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A
	Construction PM	1.185	F
Imperial Hwy. & Nash St.	Construction AM	0.377	A
	Construction PM	0.300	A
Imperial Hwy. & Douglas St.	Construction AM	0.155	A
	Construction PM	0.412	A
Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A
	Construction PM	0.667	B
Imperial Hwy. & La Cienega Blvd.	Construction AM	0.220	A
	Construction PM	0.568	A
Imperial Hwy. & I-105 Ramp	Construction AM	0.533	A
	Construction PM	0.541	A
Imperial Hwy. & I-405 NB Ramp	Construction AM	0.246	A
	Construction PM	0.554	A
Aviation Blvd. & 111th St.	Construction AM	0.353	A
	Construction PM	0.488	A

[1] The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
[2] Volume to capacity ratio.
[3] Level of Service range: A (excellent) to F (failure).

Source: City of Los Angeles, Los Angeles World Airports. 2009. *Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX)*, September.

It should be noted that updated traffic counts taken in 2010 did not indicate any major changes in intersection volumes for the intersections listed in **Table 9** compared to 2008 conditions; with 2010 volumes typically being slightly less than in 2008 (i.e., approximately four to seven percent less during most hours of the day, except for 7:00 a.m. to 8:00 a.m. which was about 10 percent less in 2010 than in 2008). As such, the Baseline (2008) traffic conditions delineated in the Bradley West Project Final EIR are considered to be generally representative of existing conditions for evaluation of the proposed Southwest RON Apron Project.

As indicated in **Table 9**, the majority of the intersections operate at an excellent level of service, with the most notable exception being Imperial Highway and Sepulveda Boulevard during the afternoon construction peak hour.

Project Requirements Related to Construction Traffic Management

The following requirements would be incorporated into the Project construction specifications and contract in order to reduce construction-related traffic impacts to the nearby transportation/circulation system.

- **Construction Traffic Coordination Requirements**.
  - Work with Airport Police and the Los Angeles Police Department to enforce delivery times and routes;
  - Coordinate with police and fire personnel regarding maintenance of emergency access and response times;
  - Monitor and coordinate deliveries and delivery schedules;
  - Ensure that only approved detour routes are used; and
  - Address public concerns regarding construction activity.
- **Construction Personnel Airport Orientation**. All construction personnel will be required to attend an Airport project-specific orientation (pre-construction meeting) that includes where to park, where staging areas are located, construction policies, etc.
- **Non-Peak Deliveries**. Deliveries to reconstruction projects will be limited to non-peak traffic hours whenever possible.
- **Construction Deliveries**. Construction deliveries requiring lane closures shall receive prior approval from the Construction Coordination Office. Notification of deliveries shall be made with sufficient time to allow for any modifications to approved traffic detour plans.
- **Designated Truck Delivery Hours**. Truck deliveries shall be encouraged to use nighttime hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.
- **Construction Employee Shift Hours**. Shift hours that do not coincide with the heaviest commuter traffic periods (7:00 a.m. to 9:00 a.m., 4:30 p.m. to 6:30 p.m.) would be established. Work periods will be extended to include weekends and multiple work shifts, to the extent possible and necessary.
- **Designated Haul Routes**. Every effort will be made to ensure that haul routes are located away from sensitive noise receptors.
- **Construction Traffic Management Plan**. A complete construction traffic plan will be developed to designate detour and/or haul routes, variable message and other sign locations, communication methods with Airport passengers, construction deliveries, construction employee shift hours, construction employee parking locations, and other relevant factors.
- **Designated Truck Routes**. For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every

effort will be made for routes to avoid residential frontages. The designated routes on City of Los Angeles streets are subject to approval by LADOT's Bureau of Traffic Management and may include, but will not necessarily be limited to: Pershing Drive (Westchester Parkway to Imperial Highway); Aviation Boulevard (Manchester Avenue to Imperial Highway); Westchester Parkway/Arbor Vitae Street (Pershing Drive to I-405); Century Boulevard (Sepulveda Boulevard to I-405); Imperial Highway (Pershing Drive to I-405); La Cienega Boulevard (north of Imperial Highway); Sepulveda Boulevard (Westchester Parkway to Imperial Highway); I-405; and I-105.

- **Modify Signage**. During construction, additional signage will be installed, as required, to separate construction traffic from non-construction traffic to the extent feasible.

Project Impacts

The highest number of construction-related vehicle trips associated with the Southwest RON Apron Project would occur in the initial phase of construction, during the removal of existing soil stockpiles from the Project site. As described earlier, an estimated 169 truck round trips per day would occur during this phase. Using a conservative assumption that all of the daily trucking activity would occur from 9:00 a.m. to 4:30 p.m., which is the 7.5-hour period between the morning and afternoon peak commute hours, there would be approximately 23 round trips (46 one-way trip ends) per hour. At a PCE factor of 2.5, this would equate to approximately 115 vehicle trips per hour. During the 3:30 p.m. to 4:30 p.m. period, there would also be an additional 10 vehicle trips for workers leaving at the end of their shift, for a total peak of 125 vehicle trips during the afternoon construction peak hour. In the event that other additional hours of the day are used for the hauling activities, either before 7:00 a.m. to 8:00 a.m. (morning commute peak hour) or after 4:30 p.m. to 5:30 p.m. (afternoon commute peak hour), thereby extending the daily duration of activity beyond 7.5 hours, the peak hour number of project-related vehicle trips would be less than 125.

In evaluating the potential traffic impacts associated with the above peak construction trip generation associated with the Southwest RON Apron Project, the impacts evaluation for the Bradley West Project presented in Section 4.3 of the Bradley West Project Final EIR is used as a basis of comparison. The construction schedule for the Bradley West Project anticipates the peak level of activity, relative to traffic generation, to occur in the fourth quarter of 2011, with approximately 613 vehicle trips occurring in the morning construction peak hour (6:00 a.m. to 7:00 a.m.) and 717 vehicle trips occurring in the afternoon construction peak hour (3:30 p.m. to 4:30 p.m.). The Bradley West Project Final EIR traffic analysis addressed several potential scenarios regarding where construction worker parking and construction staging would occur, including a Northwest Construction Staging/Parking Area near Pershing Drive and Westchester Parkway (Bradley West Project Scenarios 1, 3, and 4). The vehicle route assumptions used in that analysis, as detailed in Appendix D-2 of the Bradley West Project Final EIR, delineated 60 percent of the worker commute trips as occurring along I-105/Imperial Highway and Pershing Drive, and 100 percent of the truck trips were assumed to use that route. Based on the above trip generation and distribution assumptions, the proportional share of vehicle trips occurring along I-105/Imperial Highway and Pershing Drive would be 315 in the morning construction peak hour and 381 in the afternoon construction peak hour. The Bradley West Project Final EIR traffic analysis also included a scenario where construction worker parking would occur at a Southeast Construction Staging/Parking Area, which is the Continental City site (Bradley West Project Scenarios 2, 3, and 4). Under those

scenarios, approximately 15 percent of the workers commuting to and from that site and 100 percent of the employee shuttle trips traveling between the parking area and the work area would travel through the intersection of Aviation Boulevard and 111th Street. Based on these trip generation and distribution assumptions, the Bradley West Project traffic analysis includes approximately 128 project-related vehicle trips at that intersection in the morning construction peak hour and 146 trips in the afternoon construction peak hour. **Table 10** presents the intersection level of service analysis results for the 10 intersections of interest with the addition of the Bradley West Project peak construction traffic. As indicated in **Table 10**, the addition of the Bradley West Project peak construction trips, which are more than the number of trips associated with the Southwest RON Apron Project, would not significantly impact the 10 intersections of interest, with the exception of the intersections of Imperial Highway and Pershing Drive (morning construction peak hour) and Imperial Highway and Main Street (afternoon construction peak hour). The two significantly impacted intersections are, however, currently undergoing improvements to implement the mitigation measures specifically identified in the Bradley West Project Final EIR for those impacts. Implementation of the intersection improvements would improve operations at each intersection as shown in **Table 11** and fully mitigate the significant impacts.

Table 10

Level of Service Analysis Results - Bradley West Project Impact Analysis

Intersection	Peak Hour[1]	Baseline V/C[2]	Baseline LOS[3]	Bradley West Project Plus Baseline V/C[2]	Bradley West Project Plus Baseline LOS[3]	Change in V/C	Significant Impact[4]
Imperial Highway and Pershing Drive	Construction AM	0.479	A	0.704	C	0.225	Yes
	Construction PM	0.426	A	0.556	A	0.130	--
Imperial Highway and Main Street	Construction AM	0.404	A	0.410	A	0.006	--
	Construction PM	0.716	C	0.827	D	0.111	Yes
Imperial Highway and Sepulveda	Construction AM	0.509	A	0.509	A	0.000	--
Boulevard	Construction PM	1.185	F	1.185	F	0.000	--
Imperial Highway and Nash Street	Construction AM	0.377	A	0.492	A	0.115	--
	Construction PM	0.300	A	0.335	A	0.035	--
Imperial Highway and Douglas Street	Construction AM	0.155	A	0.193	A	0.038	--
	Construction PM	0.412	A	0.448	A	0.036	--
Imperial Highway and Aviation	Construction AM	0.523	A	0.523	A	0.000	--
Boulevard	Construction PM	0.667	B	0.702	C	0.035	--
Imperial Highway and La Cienega	Construction AM	0.220	A	0.220	A	0.000	--
Boulevard	Construction PM	0.568	A	0.568	A	0.000	--
Imperial Highway and I-105 Ramp	Construction AM	0.533	A	0.580	A	0.047	--
	Construction PM	0.541	A	0.565	A	0.024	--
Imperial Highway and I-405	Construction AM	0.246	A	0.276	A	0.030	--
Northbound Ramp	Construction PM	0.554	A	0.584	A	0.030	--
Aviation Boulevard and 111th Street	Construction AM	0.353	A	0.353	A	0.000	--
	Construction PM	0.488	A	0.488	A	0.000	--

1 The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.), and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
2 Volume to capacity ratio.
3 Level of Service range: A (excellent) to F (failure).
4 -- Indicates "Less Than Significant Impact"

Source: City of Los Angeles, Los Angeles World Airports. 2009. *Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX)*, September.

The improvements at Imperial Highway and Pershing Drive are planned to be complete in March 2011, and the improvements at Imperial Highway and Main Street were completed in January 2011. The proposed schedule for the Southwest RON Apron Project anticipates the start of construction occurring in late summer or early fall 2011; hence, the affected intersections would be operating at an improved level of service by the time Project construction begins. Based on the comparatively greater number of daily trips associated with the Bradley West Project, the conclusions of the Bradley West Project traffic analysis regarding impacts to the 10 intersections that are relevant to the Southwest RON Apron Project, and the

current improvements to intersections on Imperial Highway, it is not anticipated that the short-term peak construction trips associated with stockpile removal would result in significant traffic impacts.

Table 11

Level of Service With Bradley West Project Intersection Improvements

Peak Hour	Intersection	Improvements	2010 Without Bradley Project (Without Improvements) V/C	2010 Without Bradley Project (Without Improvements) LOS	2010 With Bradley Project (Without Improvements) V/C	2010 With Bradley Project (Without Improvements) LOS	2010 With Bradley Project (With Improvements) V/C	2010 With Bradley Project (With Improvements) LOS
AM	Imperial and Pershing	Mitigation for this impact involves widening Imperial to the north for the addition of a right-turn lane on the east leg of the intersection.	0.537	A	0.782	C	0.244	A
PM	Imperial and Main	Mitigation for this impact involves narrowing the median island on the east leg of the intersection for the addition of a second left-turn lane.	0.801	D	0.921	E	0.774	C

Source: City of Los Angeles, Los Angeles World Airports. 2009. *Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), Table 4.3-18 (Values for Scenario 3).* September.

Cumulative Impacts

Both the Bradley West Project Final EIR and the CUP Replacement Project Final EIR include evaluations of cumulative traffic impacts associated with construction of those projects along with several other development projects at and around LAX. The two analyses are very similar in nature and scope, and address the same study area, which includes the streets and intersections potentially impacted by traffic from construction of the proposed Southwest RON Apron Project. The most notable difference between the two analyses is that the CUP Replacement Project Final EIR has updated information regarding the timing of certain development projects that are included in the cumulative construction traffic impacts analysis. As such, the analysis from the CUP Replacement Project Final EIR, specifically Section 4.1.5, is used as the basis for evaluating cumulative traffic impacts associated with the Southwest RON Apron Project.

The future cumulative construction traffic condition addressed in this analysis takes into consideration past, present, and reasonably foreseeable projects and includes growth in ambient background traffic and both airport and non-airport developments in the vicinity of the airport. Known development projects in the airport vicinity that may contribute traffic to the project study area roadway system during the peak construction period were also considered. These trips would result from either the construction or the operation of those development projects, as further described in Section 4.1.5 of the

CUP Replacement Project Final EIR. The development schedule and traffic characteristics of larger projects in close proximity to the CUP Replacement Project study area were reviewed and their effects were incorporated into the cumulative analysis. Other future "non-airport" projects that are not in the immediate vicinity of the study area were accounted for indirectly as part of an assumed two-percent annual growth rate in background traffic.

Development projects considered in the cumulative construction traffic impacts analysis include both LAX Master Plan projects as well as other capital improvement projects undertaken by LAWA and other local agencies. Based on information available at the time the CUP Replacement Project construction traffic analysis was undertaken, the development projects anticipated to be under construction concurrent with CUP Replacement Project construction and of a nature that would contribute to cumulative traffic impacts (i.e., the projects would be under construction during the cumulative peak period in the Third Quarter of 2011) included the following:

- Bradley West Project;
- Security Program - In-Line Baggage Screening System (T6);
- Airfield Intersection Improvements;
- Terminal/Apron Electrical Service Capacity Upgrades; - This project upgrades electrical systems to accommodate all ground support equipment at LAX.
- CTA Elevators and Escalators Replacement;
- CTA Seismic Retrofits and Related Improvements;
- Miscellaneous Construction and Maintenance Activities;
- Metro Bus Maintenance and Operations Facility; and[43]
- CUP Replacement Project.

Subsequent to completion of the CUP Replacement Project Final EIR, the planning and engineering efforts associated with the LAX Interim Taxiway Safety Improvement Project (ITSIP) advanced to the point whereby it is now considered to be a reasonably foreseeable project. The ITSIP proposes near-term improvements to certain taxiways within the North Airfield at LAX for the purpose of enhancing the safety of aircraft operations on the north runways. It is included in the cumulative construction traffic impacts evaluation for the Southwest RON Apron Project.

To provide a conservative cumulative construction traffic impacts analysis relative to the Southwest RON Apron Project, it is assumed that construction of all of the above projects would be underway during the Third Quarter of 2011, which is also the cumulative peak construction period used in the CUP Replacement Project Final EIR traffic analysis. Based on the types of trip generation assumptions used in the CUP Replacement Project Final EIR as related to cumulative projects, general estimates of the vehicle traffic associated with each of the above projects were developed, as presented in **Table 12**.

The cumulative construction traffic impacts analysis is intended to provide a comparison of future traffic conditions consisting of traffic generated by all anticipated sources described previously in this

[43] At the time of the CUP Replacement Project traffic analysis, the Metro Bus Maintenance and Operations Facility Project was being considered on a parcel at the east end of the airport; however, that project is no longer proposed to occur near LAX. As such, the cumulative construction traffic impacts analysis derived from the CUP Replacement Project Final EIR is considered conservative.

document. Cumulative impacts were analyzed using a two-step process. Initially, the cumulative "With Project" LOS condition was compared with the Baseline condition to determine if a cumulative impact would occur relative to the Baseline. A cumulative construction traffic impact was deemed significant it if exceeded the allowable threshold of significance defined earlier in this section. If a cumulative impact was determined, then a second comparison was conducted by calculating the difference in LOS for the "With Project" and "Without Project" levels of service to determine the proposed project's contribution. If the calculated differences in LOS exceed the threshold guidelines defined in this section, then it was determined that the project component would represent a cumulatively considerable contribution (i.e., a significant impact attributable to the Southwest RON Apron Project).

Table 13 presents the cumulative impacts level of service analysis results for the five intersections considered as having the potential to experience significant cumulative construction traffic impacts. Those intersections include the following:

- Imperial Highway and Pershing Drive;
- Imperial Highway and Main Street;
- Imperial Highway and Sepulveda Boulevard;
- Imperial Highway and Aviation Boulevard; and
- Imperial Highway and I-105 Ramp

The identification of these five intersections as having the potential for significant cumulative impacts was based on the fact that each of them were identified as experiencing significant cumulative impacts in both the Bradley West Project Final EIR and the CUP Replacement Project Final EIR. The identification of significant cumulative impacts is the first step in assessing a project's impact, with the second step being an evaluation of whether the project's contribution to that impact is cumulatively considerable.

The five other intersections within the Southwest RON Apron Project analysis study area that are not anticipated to experience significant cumulative impacts include the following:

- Imperial Highway and Nash Street;
- Imperial Highway and Douglas Street;
- Imperial Highway and La Cienega Boulevard;

Table 12

A.M. and P.M. Construction Peak Hour Traffic Volume Estimates for Cumulative Projects (Q3 2011)

	Construction Trips in Passenger Car Equivalents (PCEs)															
	Construction A.M. Peak Hour (6:00 a.m. - 7:00 a.m.)								Construction P.M. Peak Hour (3:30 p.m. - 4:30 p.m.)							
	Employees		Shuttles		Delivery Trucks[1]		Transfer Trucks[2]		Employees		Shuttles		Delivery Trucks[1]		Transfer Trucks	
Project	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
Other Concurrent Projects in Q3 2011																
Bradley West Project [4]	767	--	45	45	26	26	52	52	193	767	45	45	26	26	52	52
Security Program - In-Line Baggage Screening Systems (T6)	3	--	2	2	3	3	6	6	--	3	2	2	3	3	6	6
Airfield Intersection Improvements	31	--	2	2	3	3	6	6	--	31	2	2	3	3	6	6
Terminal/Apron Electrical Service Capacity Upgrades	10	--	2	2	3	3	6	6	--	10	2	2	3	3	6	6
CTA Elevators and Escalators Replacement	9	--	2	2	3	3	6	6	--	9	2	2	3	3	6	6
CTA Seismic Retrofits and Related Improvements	10	--	2	2	3	3	6	6	--	10	2	2	3	3	6	6
Miscellaneous Construction and Maintenance Activities	4	--	2	2	3	3	6	6	--	4	2	2	3	3	6	6
Metro Bus Maintenance and Operations Facility[5]	76	--	6	6	3	3	6	6	--	76	6	6	3	3	6	6
CUP-Replacement Project	146	--	0	0	5	5	5	5	--	146	0	0	5	5	5	5
ITSIP (Q3 2011)[3]	--	140	--	--	15	15	--	--	--	140	--	--	15	15	--	--
Total for Cumulative Projects in Q3 2011	1,056	140	63	63	67	67	99	99	193	1,196	63	63	67	67	99	99

[1] Peak hour for delivery trucks was assumed to represent 10 percent of daily trips based on Bradley West Project.
[2] Transfer trucks would not access the public roadway system for those projects with contiguous staging areas and construction sites.
[3] The ITSIP trips shown here are based on 322 peak day construction employees generating 140 daily employee vehicles.
[4] The Bradley West Project trips shown here are based on 1,100 peak day construction employees generating 960 daily employee vehicles (i.e., "surge" scenario).
[5] As of the completion of this study, it is no longer anticipated that the Metro Bus Maintenance and Operations Facility will be constructed. Therefore, any construction trips generated by this project and included in the analyses represents a conservative future year cumulative traffic condition.

Source: CDM, December 2010

Table 13

Level of Service Analysis Results - Cumulative Traffic (Third Quarter 2011)

		Baseline (A)		Cumulative Peak (Q3 2011) Without Project (B)		Cumulative Peak (Q3 2011) With Project[1] (C)		Cumulative Impact Determination (C)-(A)		Cumulative Considerable Determination/Significant Impact (C)-(B)	
Intersection	**Peak Hour[1]**	**V/C[2]**	**LOS[3]**	**V/C[2]**	**LOS[3]**	**V/C[2]**	**LOS[3]**	**Change in V/C**	**Cumulative Impact?**	**Change in V/C**	**Cumulatively Considerable Contribution?**
Imperial Highway and Pershing Drive[5]	Construction PM	0.434	A	0.549	A	0.575	A	0.141	--	0.026	--
Imperial Highway and Main Street[5]	Construction PM	0.716	C	0.637	B	0.661	B	-0.055	--	0.024	--
Imperial Highway and Sepulveda Boulevard	Construction PM	1.185	F	1.272	F	1.272	F	0.087	Yes	0.000	--
Imperial Highway and Aviation Boulevard	Construction PM	0.667	B	0.751	C	0.751	C	0.084	Yes	0.000	--
Imperial Highway and I-105 Ramp	Construction PM	0.541	A	0.729	C	0.729	C	0.188	Yes	0.000	--

1 The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
2 Volume-to-capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection, with the exception of Imperial Highway/I-405 NB Ramp, which is not a part of the LADOT system.
3 Level of Service range: A (excellent) to F (failure).
4 -- Indicates "Less Than Significant Impact"
5 Includes intersection improvements identified as mitigation measures in the Bradley West Project Final EIR. Subject improvements are currently under construction and will be completed well before Q3 2011.

Source: Ricondo & Associates, Inc., using TRAFFIX, 2010.

- Imperial Highway and I-405 Northbound Ramp; and
- Aviation Boulevard and 111th Street.

All of these intersections currently operate at LOS A and the majority of them were estimated to continue operating at LOS A with cumulative construction traffic, with the exceptions of Imperial Highway/La Cienega Boulevard and Imperial Highway/I-405 Ramp which would operate at LOS B in the Construction PM Peak Hour with cumulative construction traffic. The thresholds of significance apply to conditions with an LOS of C or worse.

The levels of service, and associated volume to capacity ratios at the intersections were calculated using the same methodology and traffic model (i.e., TRAFFIX[44]) that were used for the Bradley West Project and the CUP Replacement Project. The analysis of impacts focused on the afternoon construction peak hour, given that only minimal (i.e., approximately 10) construction trips associated with the Southwest RON Apron Project are projected to occur during the morning construction peak hour. As indicated in **Table 13**, traffic volumes are projected to result in significant cumulative impacts at three of the five intersections during the cumulative peak construction period (Q3 2011); however, the Southwest RON Apron Project's contribution would not be cumulatively considerable. This is due mainly to the fact that the Project-related traffic characteristics have little, if any, effect on the critical movements within each intersection. An intersection's volume to capacity ratio and level of service rating take into account all of the various traffic movements, such as the signalized left-turn, right-turn, and straight-through movements within each quadrant of the intersection. In the case of the proposed Project, the additional traffic generated by the project during the afternoon construction peak hour would primarily affect the non-critical movements, consequently resulting in little change to the overall volume to capacity ratio of the intersection. As such, the Project's contribution to the cumulative impacts at the affected intersections is not considerable relative to CEQA.

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?

No Impact. A Congestion Management Program (CMP) analysis is not required for construction-related activity because it is anticipated that the Southwest RON Apron Project would not generate traffic during the a.m. or p.m. peak commute periods. Additionally, because the Southwest RON Apron Project would not alter roadway circulation patterns or increase traffic volumes subsequent to construction, a CMP analysis is not required for post-construction traffic operations.

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

No Impact. Implementation of the proposed Southwest RON Apron Project would have no effect on existing air traffic patterns or air traffic levels. The location and design of the proposed facility would meet all applicable FAA requirements relative to not encroaching into any airfield safety area surfaces, including as related to having aircraft taxiing and parking within the proposed apron area.

[44] Dowling Associates, TRAFFIX Version 7.7. Based on information provided by Dowling Associates in May 2, 2008, over 425 site TRAFFIX licenses are owned by public and private entities, including licenses owned by 44 cities, 5 countries, and Caltrans within the State of California.

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

No Impact. The only circulation features included as part of the proposed Project would be the access road that would cross the proposed apron area leading to and from Guard Post 21 and realignment of the existing vehicle service road for Taxiway AA. In both cases, the design of the subject improvements would meet FAA requirements. The operation of aircraft and on-airfield vehicles associated with the proposed Project would not affect public roadways.

e. Result in inadequate emergency access?

Less Than Significant Impact. Development of the proposed Southwest RON Apron Project would result in airfield operations within an area that is currently vacant and/or used for construction staging and offices. Any emergencies occurring within the Project site would be within the required response distance of the new Aircraft Rescue and Firefighting Facility (ARFF) - Fire Station 80 located east of the site.

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?

No Impact. The proposed Southwest RON Apron Project involves improvements within the airfield operations area, which do not pertain to public transit, bicycle, or pedestrian facilities.

XVII. UTILITIES. *Would the project:*

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

No Impact. Sanitary wastewater generated by activities at LAX is treated at the Hyperion Treatment Plant (HTP). The City of Los Angeles has an approved plan to accommodate future and cumulative wastewater treatment capacity and is implementing the components that comprise its plan through the monitoring of triggers (i.e., population growth, regulatory changes, and other policy decisions) as part of their implementation strategy. As discussed in Response No. XIII.a., the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise substantially increase wastewater generation. As discussed in Response No. XVII.d. below, wash racks would be installed as part of the proposed Project. Water used for the wash racks would be collected and recycled, and thus, would not create a substantial new source of wastewater generation. Therefore, no impact with regard to wastewater generation and treatment would occur, and no mitigation measures are required.

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?

No Impact. As discussed in Response No. XIII.a., the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise substantially increase water use or wastewater generation. As such, implementation of the proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact to water or wastewater facilities would occur, and no mitigation measures are required.

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

Less Than Significant Impact. At LAX, stormwater is discharged to both County of Los Angeles and City of Los Angeles drainage and flood control structures. The existing drainage system at LAX consists of catch basins, subsurface storm drains and open channels, and outfalls. The Project site is within the Imperial Drain Subbasin.[45] The Project site is primarily pervious surface area that would be paved over, thereby increasing the amount of impervious surface area at the airport. The development of the site would include drainage improvements such as catch basins that would direct site runoff into the existing storm drain system located at the airport. This increase in storm water runoff is anticipated to be small and would not exceed the capacity of the existing stormdrain system. Therefore, the proposed Project would not result in the need to construct new stormwater drainage facilities or to expand existing facilities, the construction or expansion of which would cause environmental effects to occur. As such, no significant impacts to stormwater drainage facilities would occur, and no mitigation measures are required.

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

Less Than Significant Impact. The LADWP is the water purveyor for LAX. LADWP is responsible for supplying, treating, and distributing water within the City. According to LADWP, it has met the immediate needs of its customers and is well positioned to continue to do so in the future.[46] LAX is served by a 36-inch trunk line in Sepulveda Boulevard that distributes water to a combination of 12-inch and 16-inch transmission lines running along the airport perimeter and 8-inch and 10-inch transmission lines primarily along the perimeter of the airport terminals. The proposed Project would provide water line hook ups to airplanes parked at the RON site. This water would be used to resupply the on-board water storage tanks. This would result in a minor increase in water use at LAX, which could be accommodated by existing entitlements. The wash racks to be provided at the Project site would be designed to collect and re-use water thereby reducing overall water consumption. Therefore, no new or expanded entitlements would be required. No significant impacts with respect to water supply would occur, and no mitigation measures are required.

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?

Less Than Significant Impact. As discussed in Response Nos. XVII.a. and b. above, the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise result in substantial increase in wastewater generation. Existing wastewater facilities are adequate to serve the proposed Project. Therefore, no impact to wastewater facilities would occur, and no mitigation measures are required.

[45] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

[46] City of Los Angeles Department of Water and Power, Urban Water Management Plan, 2005.

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?

f-g. Less Than Significant Impact. The proposed Project would result in the installation of paving on an undeveloped lot that is currently used for construction staging. The site is undeveloped except for the north edge which has some construction office trailers that would be moved off-site and some existing paving that would be demolished. There are no existing structures that would be demolished. As such, only minimal construction waste would be generated as a result of construction activities (i.e., concrete and asphalt). The County of Los Angeles currently has adequate inert (construction) waste capacity. The County's Annual Report on the Countywide Summary Plan and Siting Element estimated the total remaining permitted inert waste capacity in Los Angeles County to be approximately 47.02 million tons as of January 1, 2007.[47] Therefore, there is anticipated to be no shortfall in disposal capacity for inert waste within the county. Operation of the proposed Project is not expected to generate any increase in the amount of solid waste that would otherwise occur, as it would not result in an increase in the number of passengers, cargo, or aircraft at LAX. All waste disposal would occur in compliance with federal, state, and local statutes and regulations related to solid waste, including waste stream diversion requirements. As such, impacts of the proposed Project would be less than significant, and no mitigation measures are required.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of 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?

Potentially Significant Unless Mitigation Incorporated. The proposed Project is located on a disturbed site within a developed airport. There are no plant or animal species listed on any state of federal lists for endangered, threatened or special status species or riparian/wetland areas, trees, or wildlife movement corridors at the Project site. Therefore, the proposed Project would not have an impact on biological resources.

There are no known cultural resources located on-site. Nonetheless, the potential exists for the destruction of archaeological, as well as paleontological resources, during construction which could result in a significant impact. However, with implementation of the proposed mitigation measure, which would be included in the construction requirements for the Project, the potential impact to archaeological and paleontological resources would be reduced to less than significant.

b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project

[47] County of Los Angeles, Department of Public Works, Annual Report on the Countywide Summary Plan and Countywide Siting Element, June 2008.

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. As discussed above in Section III, Air Quality, and Section XVI, Transportation/Circulation, cumulative impacts that exceed the applicable thresholds of significance are projected to occur during construction peak periods for the combined development projects addressed in the analysis. However, for the reasons provided in those sections, the Southwest RON Apron Project's contribution to such impacts would not be cumulatively considerable.

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

Potentially Significant Unless Mitigation Incorporated. As described throughout this document, with implementation of mitigation measures, implementation of the proposed Project is not anticipated to have significant impacts that would cause substantial adverse effects on human beings, either directly or indirectly. Therefore, all potentially significant environmental effects associated with the proposed Project can be mitigated to less than significant levels.

REFERENCES

California Air Resources Board, OFFROAD2007 Model and South Coast Air Basin Fleet Averages, Available: http://www.aqmd.gov/CEQA/handbook/offroad/offroad.html, Accessed: October 2010.

California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3.

California Environmental Protection Agency, Ambient Air Quality Standards updated September 8, 2010. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed: September 2010.

City of Los Angeles Department of Water and Power, Urban Water Management Plan, 2005.

City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, adopted November 1996.

City of Los Angeles, Los Angeles World Airports (LAWA), Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan, June 2005.

City of Los Angeles, Los Angeles World Airports (LAWA), Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan, Revised December 2005.

City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.

City of Los Angeles, Los Angeles World Airports, LAX Plan, September 29, 2004.

City of Los Angeles, Los Angeles World Airports, Los Angeles International Airport Specific Plan, September 29, 2004.

City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), September 2009.

City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Central Utility Plant Replacement Project, Los Angeles International Airport (LAX), October 2009.

County of Los Angeles, Department of Public Works, Annual Report on the Countywide Summary Plan and Countywide Siting Element, June 2008.

Jones and Stokes, Associates, Software User's Guide: URBEMIS2007 for Windows Version 9.2 - Emissions Estimation for Land Use Development Projects, prepared on behalf of South Coast Air Quality Management District, November 2007.

Los Angeles World Airports, Los Angeles World Airports Sustainable Airport Planning, Design and Construction Guidelines Version 5.0, February 2010.

PMC, Korean Air Cargo Terminal Improvement Project, Final Initial Study/Mitigated Negative Declaration. Submitted to Los Angeles World Airports. City Clerk # AD-331-06. June 2007.

South Coast Air Quality Management District, Improvement of Specific Emission Factors (BACM Project No. 1) Final Report, prepared by Midwest Research Institute, March 29, 1996.

South Coast Air Quality Management District, Rule 1113 - Architectural Coatings, Amended July 13, 2007.

South Coast Air Quality Management District, SCAQMD List of Current Rules, Available: http://www.arb.ca.gov/drdb/sc/cur.htm, Accessed: October 6, 2010.

South Coast Air Quality Management District. SCAQMD List of Current Rules. Available: http://www.arb.ca.gov/drdb/sc/cur.htm, Accessed October 6, 2010.

U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition (AP-42), Available: http://www.epa.gov/ttn/chief/ap42/index.html.

Appendix A
Air Quality Calculation Worksheets

Phase	CO (lbs/day)	VOC (lbs/day)	NOx (lbs/day)	Sox (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)	Days	CO2 metric tpy
Demolition	10	3	24	0	1	1	13,024	15	89
Stockpile Removal[1]	32	8	94	0	29	5	40,578	55	1,012
Subgrade Preparation	30	9	79	0	54	8	30,190	20	274
Underground Utilities	10	3	30	0	1	1	12,937	40	235
Paving									-
Base Course	26	8	69	0	3	3	25,678	15	175
Econocrete	26	6	57	0	30	6	31,686	15	216
PCC	26	6	58	0	30	6	31,896	25	362
AC	51	26	48	1	9	7	34,653	15	236
Miscellaneous Work	19	22	10	0	1	0	11,326	40	206
SCAQMD Threshold	550	75	100	150	150	55	NA	240	2,803

1. Stockpile removal assumes total trips to finish removal in 11 weeks, with an 33 mile rountrip haul distance.

2. EMFAC2007 HHDV onroad trucks are assumed for LA County: engines are assumed to meet 2007+ onroad standards.

Stages of Construction	Weeks	Heavy Equipment	Qty or Trips	Capacity	Engine Size (HP)	Type	OFFROAD	hrs/day or miles/rountrip or miles/day	CO (lbs/day)	ROG (lbs/day)	NOX (lbs/day)	SO2 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)
Demolition	**3**																
		Front-end Loader	2	6 CY	350	Diesel	Rubber Tired Loaders	8	7.98	2.31	22.47	0.03	0.83	0.77	2,652.11	0.21	-
		Dump Truck	4	12 CY	300	Diesel	HHDT-DSL	40	0.55	0.11	1.72	0.01	0.18	0.06	672.54	0.00	-
		Water Truck	1	4000 Gal	300	Diesel	HHDT-DSL	20	0.07	0.01	0.21	0.00	0.02	0.01	84.07	0.00	-
		Workers	6				LDA-CAT	30	1.09	0.10	0.09	0.00	0.16	0.03	9,615.60	0.01	-
Stockpile Removal	**11**																
		Front-end Loader	2	6 CY	350	Diesel	Rubber Tired Loaders	8	7.98	2.31	22.47	0.03	0.83	0.77	2,652.11	0.21	-
		Large Excavator	1	2.5 CY	400	Diesel	Excavators	8	3.69	1.21	11.29	0.01	0.41	0.38	1,494.56	0.11	-
		~~Off-Street Dump Truck~~		~~18 CY~~	~~400~~	~~Diesel~~	~~Off-Highway Trucks~~	~~8~~	-	-	-	-	-	-	-	-	-
		On-road Haul Trucks	169	20 CY	NA	Diesel	HHDT-DSL	**33**	19.18	3.84	59.90	0.22	6.39	1.96	23,442.31	0.16	-
		Water Truck	1	4000 Gal	350	Diesel	HHDT-DSL	40	0.14	0.03	0.43	0.00	0.05	0.01	168.14	0.00	-
		Scraper	0	20 CY	250	Diesel	Scrapers	8	-	-	-	-	-	-	-	-	-
		Fugitive Dust											20.93	2.09			
		Workers	8				LDA-CAT	30	1.46	0.14	0.12	0.00	0.21	0.04	12,820.80	0.01	-
Subgrade Preparation	**4**																
		Motor Grader	1		250	Diesel	Graders	8	3.75	1.33	13.31	0.02	0.48	0.44	1,375.67	0.12	-
		Scraper	2	20 CY	250	Diesel	Scrapers	8	11.16	3.97	37.31	0.04	1.48	1.36	3,348.52	0.36	-
		Water Truck	1	4000 Gal	350	Diesel	HHDT-DSL	60	0.21	0.04	0.64	0.00	0.07	0.02	252.20	0.00	-
		Front-end Loader	1	7 CY	350	Diesel	Rubber Tired Loaders	8	3.99	1.15	11.24	0.01	0.42	0.38	1,326.06	0.10	-
		On-road Haul Trucks	2	18 CY	400	Diesel	HHDT-DSL	8	0.06	0.01	0.17	0.00	0.02	0.01	67.25	0.00	-
		Vibratory Compactor	2		150	Diesel	Paving Equipment	8	8.43	2.10	16.44	0.02	0.93	0.86	1,384.22	0.19	-
		Fugitive Dust											50.00	5.00			
		Workers	14				LDA-CAT	30	2.55	0.24	0.21	0.00	0.37	0.08	22,436.40	0.03	-
Underground Utilities	**8**																
Storm Drain		Medium Excavator	1	1 CY	200	Diesel	Excavators	8	2.40	0.88	8.76	0.01	0.30	0.27	1,014.66	0.08	-
Oil/water Separation		Dump Truck	1	12 CY	280	Diesel	HHDT-DSL	20	0.07	0.01	0.21	0.00	0.02	0.01	84.07	0.00	-
Wash Rack System		Front-end Loader	1	7 CY	350	Diesel	Rubber Tired Loaders	8	3.99	1.15	11.24	0.01	0.42	0.38	1,326.06	0.10	-
Electrical		Medium Crane	1		250	Diesel	Cranes	8	2.61	0.94	9.23	0.01	0.34	0.31	896.47	0.08	-
		Workers	6				LDA-CAT	30	1.09	0.10	0.09	0.00	0.16	0.03	9,615.60	0.01	-
Paving																	
Base Course	3	Dump Truck	2	12 CY	280	Diesel	HHDT-DSL	20	0.14	0.03	0.43	0.00	0.05	0.01	168.14	0.00	-
		Motor Grader	1		250	Diesel	Graders	8	3.75	1.33	13.31	0.02	0.48	0.44	1,375.67	0.12	-
		Vibratory Compactor	2		150	Diesel	Paving Equipment	8	8.43	2.10	16.44	0.02	0.93	0.86	1,384.22	0.19	-
		Water Truck	1	4000 Gal	300	Diesel	HHDT-DSL	40	0.46	0.12	1.33	0.00	0.10	0.07	170.06	0.01	-
		Scraper	2	20 CY	250	Diesel	Scrapers	8	11.16	3.97	37.31	0.04	1.48	1.36	3,348.52	0.36	-
		Workers	12				LDA-CAT	30	2.18	0.21	0.18	0.00	0.32	0.07	19,231.20	0.02	-
Econocrete	3	Cement Truck	100	10 CY	280	Diesel	HHDT-DSL	0.5	0.17	0.03	0.54	0.00	0.06	0.02	210.17	0.00	-
		Material Transfer Vehicle	1		200	Diesel	Off-Highway Trucks	8	2.62	0.99	9.49	0.01	0.33	0.30	1,064.93	0.09	-
		Concrete Spreader	1		425	Diesel	Pavers	8	7.25	1.69	16.17	0.02	0.64	0.59	1,584.65	0.15	-
		Concrete Paving Machine	1		440	Diesel	Pavers	8	7.51	1.75	16.74	0.02	0.67	0.61	1,640.58	0.16	-
		Texture/Curing Machine	1		60	Diesel	Paving Equipment	8	1.61	0.49	2.90	0.00	0.26	0.24	217.80	0.04	-
		Concrete Batch Plant	1		NA			8					27.28	4.09			
		Front-end Loader	1	7 CY	350	Diesel	Rubber Tired Loaders	8	3.99	1.15	11.24	0.01	0.42	0.38	1,326.06	0.10	-
		Workers	16				LDA-CAT	30	2.91	0.28	0.24	0.00	0.43	0.09	25,641.60	0.03	-
PCC	5	Cement Truck	200	10 CY	280	Diesel	HHDT-DSL	0.5	0.34	0.07	1.07	0.00	0.11	0.04	420.34	0.00	-
		Material Transfer Vehicle	1		200	Diesel	Off-Highway Trucks	8	2.62	0.99	9.49	0.01	0.33	0.30	1,064.93	0.09	-
		Concrete Spreader	1		425	Diesel	Pavers	8	7.25	1.69	16.17	0.02	0.64	0.59	1,584.65	0.15	-
		Concrete Paving Machine	1		440	Diesel	Pavers	8	7.51	1.75	16.74	0.02	0.67	0.61	1,640.58	0.16	-
		Texture/Curing Machine	1		60	Diesel	Paving Equipment	8	1.61	0.49	2.90	0.00	0.26	0.24	217.80	0.04	-

		Front-end Loader	1	7 CY	350	Diesel	Rubber Tired Loaders	8	3.99	1.15	11.24	0.01	0.42	0.38	1,326.06	0.10	-
		Concrete Batch Plant	1		NA			8					27.28	4.09			
		Workers	16				LDA-CAT	30	2.91	0.28	0.24	0.00	0.43	0.09	25,641.60	0.03	-
AC	3	Dump Truck	4	12 CY	280	Diesel	HHDT-DSL	8	0.11	0.02	0.34	0.00	0.04	0.01	134.51	0.00	-
		Asphalt Paving Machine	1		225	Diesel	Pavers	8	4.77	1.65	15.84	0.02	0.63	0.58	1,398.22	0.15	-
		Asphalt Compactor	2		140	Diesel	Rollers	8	7.98	1.80	14.58	0.02	0.81	0.75	1,383.03	0.16	-
		Asphalt Batch Plant	1		NA			8	31.42	7.73	6.28	1.11	6.57	5.47	7,975.00	2.90	
		Front-end Loader	1	7 CY	350	Diesel	Rubber Tired Loaders	8	3.99	1.15	11.24	0.01	0.42	0.38	1,326.06	0.10	-
		Asphalt Off-gas								13.10							
		Workers	14				LDA-CAT	30	2.55	0.24	0.21	0.00	0.37	0.08	22,436.40	0.03	-
Miscellaneous Work	**8**							8									
Saw Joints		Concrete Saws	2		60	Gasoline	Concrete/Industrial Saws	8	14.92	0.33	0.76	0.01	0.05	0.03	703.21	0.02	0.06
RON Kits		Large Crane	1		350	Diesel	Cranes	8	3.42	0.96	9.23	0.01	0.35	0.32	1,007.66	0.09	-
Flood Lights								8									
Clarifier System								8									
Striping								8		20.86							
		Workers	6				LDA-CAT	30	1.09	0.10	0.09	0.00	0.16	0.03	9,615.60	0.01	-
Total Schedule (Months)	**12**																

Source: URBEMIS2007

□u□iti□e □ust

The Midwest Research Institute has derived a value of 0.11 tons/acre/month, which converts to 10 pounds per day, assuming 22 workdays per month. The California Air Resources Board review has reviewed this factor and concluded that it represents PM10 emissions with watering. Consequently, ARB concludes that 20 pounds per acre day is more appropriate for unmitigated fugitive dust conditions (http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-7.pdf)

18	acre site
0.11	tons/acre month
22	work days/month
10	lbs/acre-day
5	acres disturbed per day
50	lbs/day

□u□iti□e RO□ □ro□ Paintin□

ROG (pounds / gal) = (grams VOC per liter paint / 454 grams per pound * 3.785 liters per gallon).

25	gallons/day
100	g ROG/liter

ROG (lbs/gal)	0.83
ROG (lbs/day)	20.86

□u□iti□e RO□ □ro□ Asphalt Pa□in□

ROG (pounds per day) = (2.62 pounds ROG / acre) * (total acres paved /paving days)

2.62	lbs ROG/acre
5	acres/day
13.1	lbs ROG/day

LAX
RON Soil Removal
2007+ Model Years

	Truck Capacity (CY)	Soil Removal (CY)	Round-trip (mi)	Equipment (#)	Total VMT	CO (lbs)	VOC (lbs)	NOx (lbs)	SOX (lbs)	PM10 (lbs)*	PM2.5 (lbs)*	CO2 (lbs)	CH4 (lbs)
Scenario 1: HHDV	20	185,000	8.0	9,250.0	74,000.0	254.4	50.9	794.8	2.9	84.7	26.0	311,050.8	2.2
Scenario 2: HHDV	20	185,000	33.0	9,250.0	305,250.0	1,049.5	209.9	3,278.7	11.8	349.5	107.1	1,283,084.7	8.9

	HP	OFFROAD	Hours/ day	Equipment (#)	Total hp-hrs/day	CO (lbs)	VOC (lbs)	NOx (lbs)	SOX (lbs)	PM10 (lbs)	PM2.5 (lbs)	CO2 (lbs)	CH4 (lbs)
Front-end Loader	350	Rubber Tired Loaders	8	2	5,600	8.0	2.3	22.5	0.0	0.8	0.8	2,652	0.2
Large Excavator	400	Excavators	8	1	3,200	3.7	1.2	11.3	0.0	0.4	0.4	1,495	0
Off-Street Dump Truck	400	Off-Highway Trucks	8	-	-	-	-	-	-	-	-	-	-
Water Truck	350	Off-Highway Trucks	8	2	5,600	7.9	2.7	23.8	0.0	0.9	0.8	3,047	0.2
Scraper	250	Scrapers	8	2	4,000	11.2	4.0	37.3	0.0	1.5	1.4	3,349	0
		Subtotal				31	10	95	0	4	3	10,543	1
					Total Scenario 1	285.1	61.0	889.7	3.0	109.3	31.4	321,593.4	3.1
55	Total days				Total Scenario 2	1,080.2	220.0	3,373.6	11.9	358.2	110.9	1,293,627.3	9.8
3,364	CY/day				*CEQA Construction Threshold*	550.0	75.0	100.0	150.0	150.0	55.0	NA	NA
168	trips/day				*Subtract offroad equipment*	519	65	5	150	146	52	NA	NA
					Scenario 1:								
					Days -- Construction -->	0.5	0.8	155.5	0.0	0.6	0.5	NA	NA
					Scenario 2:								
					Days -- Construction -->	2.0	3.2	641.4	0.1	2.4	2.1	NA	NA

	Min Days	Trips per day	Hrs/day	Hrs/trip	Trucks Allowed per Day
Scenario 1:					
Construction -->	155.5	59	8	0.5	3.0
Scenario 2:					
Construction -->	641.4	14.4	8	1	1.0

PM2.5 Ratio 0.92 PM10-PM2.5

**PM10 and PM2.5 for HHDV includes fugitive road dust.*

Soil-handling				density	1.6	g/cm3
e =	0.01305	lbs/ton			764,555	cm3/CY
k =	0.35	particle size			1.3	tons/CY
m=	0.25				1,190	CY/day - scenario 1
U =	3.57	knots - NLB 2005-2007 average			288	CY/day - scenario 2
	6.00	m/s			1,604	tons/day - scenario 1
					389	tons/day - scenario 2
					20.93	lbs/day PM10 - scenario 1
					5.07	lbs/day PM10 - scenario 2
					2.09	lbs/day PM2.5 - scenario 1
					0.51	lbs/day PM2.5 - scenario 2

$$e = k(0.0016)\frac{\left(\frac{u}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$ lbs/ton

LAX
RON Soil Removal
All Model Years

	Truck Capacity (CY)	Soil Removal (CY)	Round-trip (mi)	Equipment (#)	Total VMT	CO (lbs)	VOC (lbs)	NOx (lbs)	SOX (lbs)	PM10 (lbs)*	PM2.5 (lbs)*	CO2 (lbs)	CH4 (lbs)
Scenario 1: HHDV	20	185,000	8.0	9,250.0	74,000.0	852.2	221.0	2,455.7	2.9	188.2	121.4	314,618.5	10.3
Scenario 2: HHDV	20	185,000	25.0	9,250.0	231,250.0	2,663.1	690.5	7,674.2	9.0	588.2	379.3	983,182.9	32.3

	HP	OFFROAD	Hours/ day	Equipment (#)	Total hp-hrs/day	CO (lbs)	VOC (lbs)	NOx (lbs)	SOX (lbs)	PM10 (lbs)	PM2.5 (lbs)	CO2 (lbs)	CH4 (lbs)
Front-end Loader	350	Rubber Tired Loaders	8	2	5,600	8.0	2.3	22.5	0.0	0.8	0.8	2,652	0.2
Large Excavator	400	Excavators	8	1	3,200	3.7	1.2	11.3	0.0	0.4	0.4	1,495	0
Off-Street Dump Truck	400	Off-Highway Trucks	8	-	-	-	-	-	-	-	-	-	-
Water Truck	350	Off-Highway Trucks	8	2	5,600	7.9	2.7	23.8	0.0	0.9	0.8	3,047	0.2
Scraper	250	Scrapers	8	2	4,000	11.2	4.0	37.3	0.0	1.5	1.4	3,349	0
		Subtotal				31	10	95	0	4	3	10,543	1
					Total Scenario 1	882.9	231.1	2,550.6	3.0	198.6	125.4	325,161.1	11.3
					Total Scenario 2	2,693.8	700.6	7,769.1	9.1	594.0	382.9	993,725.5	33.2
					CEQA Construction Threshold	550.0	75.0	100.0	150.0	150.0	55.0	NA	NA
					Subtract offroad equipment	519	65	5	150	146	52	NA	NA
					Scenario 1:								
					Days -- Construction -->	1.6	3.4	480.4	0.0	1.3	2.3	NA	NA
					Scenario 2:								
					Days -- Construction -->	5.1	10.6	1,501.2	0.1	4.0	7.3	NA	NA

	Min Days	Trips per day	Hrs/day	Hrs/trip	Trucks Allowed per Day
Scenario 1:					
Construction -->	480.4	19	8	0.5	1.0
Scenario 2:					
Construction -->	1,501.2	6.2	8	1	-

PM2.5 Ratio 0.92 PM10-PM2.5
**PM10 and PM2.5 for HHDV includes fugitive road dust.*

Soil-handling

e =	0.01305	lbs/ton
k =	0.35	particle size
m=	0.25	
U =	3.57	knots - NLB 2005-2007 average
	6.00	m/s

$$e = k(0.0016)\frac{\left(\frac{u}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$ lbs/ton

density	1.6 g/cm3
	764,555 cm3/CY
	1.3 tons/CY
	385 CY/day - scenario 1
	123 CY/day - scenario 2
	519 tons/day - scenario 1
	166 tons/day - scenario 2
	6.77 lbs/day PM10 - scenario 1
	2.17 lbs/day PM10 - scenario 2
	0.68 lbs/day PM2.5 - scenario 1
	0.22 lbs/day PM2.5 - scenario 2

CY	Equipment	Fuel	MaxHP	Class	Population	Activity	Consumption	CO tons/day	ROG tons/day	NOX tons/day	SO2 tons/day	PM tons/day	PM25 tons/day	CO2 tons/day	CH4 tons/day	N2O (tons/day)	CO (lbs/hp-hr)	ROG (lbs/hp-hr)	NOX (lbs/hp-hr)	SO2 (lbs/hp-hr)	PM10 (lbs/hp-hr)	PM2.5 (lbs/hp-hr)	CO2 (lbs/hp-hr)	CH4 (lbs/hp-hr)	N2O (lbs/hp-hr)
2011	2-Wheel Tractors	G4	5	Agricultural Equipment	0.36	0.16	3.31E-02	7.24E-05	4.55E-06	2.04E-06	6.49E-09	6.13E-08	3.54E-08	1.88E-04	2.57E-07	2.78E-07	0.1809	0.0114	0.0051	0.0000	0.0002	0.0001	0.4696	0.0006	0.0007
2011	2-Wheel Tractors	G4	15	Agricultural Equipment	0.42	0.39	1.87E-01	5.37E-04	1.41E-05	1.04E-05	2.59E-08	7.61E-06	4.40E-06	9.08E-04	7.96E-07	1.00E-06	0.1852	0.0049	0.0036	0.0000	0.0026	0.0015	0.3131	0.0003	0.0003
2011	2-Wheel Tractors	G4	25	Agricultural Equipment	0.01	0.01	1.03E-02	3.06E-05	7.98E-07	5.16E-07	1.23E-09	4.08E-07	2.36E-07	4.87E-05	4.51E-08	3.73E-08	0.2359	0.0062	0.0040	0.0000	0.0031	0.0018	0.3757	0.0003	0.0003
2011	Aerial Lifts	C4	15	Industrial Equipment	0.10	0.10	8.15E-02	7.31E-05	1.88E-07	2.00E-06	0.00E+00	2.07E-07	1.91E-07	0.0004528	1.574E-06	0	0.0957	0.0002	0.0026	-	0.0003	0.0002	0.5930	0.0021	-
2011	Aerial Lifts	C4	25	Industrial Equipment	4.25	4.37	5.20E+00	4.82E-03	1.79E-05	1.33E-04	0.00E+00	1.45E-05	1.34E-05	0.028386	0.0001501	0	0.0882	0.0003	0.0024	-	0.0003	0.0002	0.5200	0.0028	-
2011	Aerial Lifts	D	15	Industrial Equipment	2.01	2.20	8.69E-01	5.81E-05	1.13E-05	7.12E-05	1.48E-07	3.56E-06	3.28E-06	0.0095109	1.015E-06	0	0.0035	0.0007	0.0043	0.0000	0.0002	0.0002	0.5763	0.0001	-
2011	Aerial Lifts	D	25	Industrial Equipment	3.28	3.59	1.80E+00	9.45E-05	3.24E-05	1.73E-04	2.50E-07	1.02E-05	9.37E-06	0.0196695	2.921E-06	0	0.0021	0.0007	0.0039	0.0000	0.0002	0.0002	0.4380	0.0001	-
2011	Aerial Lifts	D	50	Industrial Equipment	12.00	12.63	1.14E+01	1.11E-03	3.90E-04	1.20E-03	1.60E-06	1.04E-04	9.54E-05	0.1237486	3.522E-05	0	0.0035	0.0012	0.0038	0.0000	0.0003	0.0003	0.3919	0.0001	-
2011	Aerial Lifts	D	120	Industrial Equipment	10.63	11.20	1.95E+01	1.36E-03	3.29E-04	2.24E-03	2.50E-06	1.78E-04	1.63E-04	0.2129225	2.97E-05	0	0.0020	0.0005	0.0033	0.0000	0.0003	0.0002	0.3170	0.0000	-
2011	Aerial Lifts	D	500	Industrial Equipment	1.36	1.44	1.38E+01	3.55E-04	8.87E-05	1.18E-03	1.50E-06	3.54E-05	3.26E-05	0.1526056	8.004E-06	0	0.0010	0.0002	0.0033	0.0000	0.0001	0.0001	0.4253	0.0000	-
2011	Aerial Lifts	D	750	Industrial Equipment	0.11	0.12	2.01E+00	5.16E-05	1.33E-05	1.76E-04	2.23E-07	5.23E-06	4.82E-06	0.0221836	1.204E-06	0	0.0012	0.0003	0.0041	0.0000	0.0001	0.0001	0.5125	0.0000	-
2011	Aerial Lifts	G4	15	Industrial Equipment	0.08	0.08	4.86E-02	1.40E-04	3.64E-06	2.69E-06	6.72E-09	1.98E-06	1.14E-06	2.36E-04	2.06E-07	2.38E-07	0.2234	0.0058	0.0043	0.0000	0.0032	0.0018	0.3774	0.0003	0.0004
2011	Aerial Lifts	G4	25	Industrial Equipment	3.46	3.55	3.12E+00	9.24E-03	2.45E-04	1.59E-04	3.73E-07	1.23E-04	7.12E-05	1.47E-02	1.39E-05	1.21E-05	0.2080	0.0055	0.0036	0.0000	0.0028	0.0016	0.3310	0.0003	0.0003
2011	Aerial Lifts	G4	50	Industrial Equipment	4.22	4.18	6.64E+00	5.64E-03	1.11E-04	1.84E-04	6.66E-07	4.20E-06	2.43E-06	5.48E-02	6.28E-06	1.32E-05	0.0540	0.0011	0.0018	0.0000	0.0000	0.0000	0.5243	0.0001	0.0001
2011	Aerial Lifts	G4	120	Industrial Equipment	4.22	4.18	1.20E+01	3.42E-03	1.16E-04	3.80E-04	1.06E-06	8.52E-06	4.93E-06	1.10E-01	6.58E-06	1.78E-05	0.0136	0.0005	0.0015	0.0000	0.0000	0.0000	0.4385	0.0000	0.0001
2011	Agricultural Mowers	D	120	Agricultural Equipment	0.02	0.02	3.03E-02	2.16E-06	5.76E-07	3.80E-06	3.88E-09	2.99E-07	2.75E-07	0.000331	5.193E-08	0	0.0019	0.0005	0.0033	0.0000	0.0003	0.0002	0.2918	0.0000	-
2011	Agricultural Mowers	G4	15	Agricultural Equipment	0.38	0.19	7.15E-02	2.08E-04	5.93E-06	3.76E-06	9.70E-09	2.85E-06	1.65E-06	3.40E-04	3.35E-07	4.14E-07	0.1485	0.0042	0.0027	0.0000	0.0020	0.0012	0.2424	0.0002	0.0003
2011	Agricultural Mowers	G4	25	Agricultural Equipment	0.31	0.15	1.35E-01	4.02E-04	1.11E-05	6.35E-06	1.59E-08	5.24E-06	3.03E-06	6.26E-04	6.27E-07	4.98E-07	0.2100	0.0058	0.0033	0.0000	0.0027	0.0016	0.3272	0.0003	0.0003
2011	Agricultural Tractors	D	15	Agricultural Equipment	4.33	6.32	3.04E+00	2.03E-04	3.87E-05	2.43E-04	5.18E-07	9.51E-06	8.75E-06	0.0332675	3.494E-06	0	0.0043	0.0008	0.0051	0.0000	0.0002	0.0002	0.7016	0.0001	-
2011	Agricultural Tractors	D	25	Agricultural Equipment	5.34	7.80	7.16E+00	3.24E-04	9.58E-05	6.13E-04	9.98E-07	2.92E-05	2.69E-05	0.0786289	8.647E-06	0	0.0033	0.0010	0.0063	0.0000	0.0003	0.0003	0.8069	0.0001	-
2011	Agricultural Tractors	D	50	Agricultural Equipment	12.45	16.23	2.58E+01	2.95E-03	1.14E-03	2.85E-03	3.59E-06	2.77E-04	2.55E-04	0.277547	0.0001033	0	0.0073	0.0028	0.0070	0.0000	0.0007	0.0006	0.6841	0.0003	-
2011	Agricultural Tractors	D	120	Agricultural Equipment	14.40	18.77	6.26E+01	4.57E-03	1.26E-03	8.06E-03	8.01E-06	6.64E-04	6.11E-04	0.6831337	0.0001136	0	0.0041	0.0011	0.0072	0.0000	0.0006	0.0005	0.6066	0.0001	-
2011	Agricultural Tractors	D	175	Agricultural Equipment	8.11	10.57	6.01E+01	3.59E-03	8.09E-04	6.88E-03	7.41E-06	3.58E-04	3.30E-04	0.6582056	7.301E-05	0	0.0039	0.0009	0.0074	0.0000	0.0004	0.0004	0.7116	0.0001	-
2011	Agricultural Tractors	D	250	Agricultural Equipment	5.24	6.83	5.51E+01	1.46E-03	4.85E-04	5.86E-03	6.84E-06	1.83E-04	1.68E-04	0.607784	4.373E-05	0	0.0017	0.0006	0.0069	0.0000	0.0002	0.0002	0.7121	0.0001	-
2011	Agricultural Tractors	D	500	Agricultural Equipment	1.04	1.36	1.79E+01	5.37E-04	1.42E-04	1.72E-03	1.94E-06	5.52E-05	5.08E-05	0.197438	1.279E-05	0	0.0016	0.0004	0.0051	0.0000	0.0002	0.0001	0.5823	0.0000	-
2011	Agricultural Tractors	G4	120	Agricultural Equipment	0.14	0.22	1.10E+00	6.38E-04	3.80E-05	1.02E-04	9.13E-08	7.32E-07	4.23E-07	9.45E-03	2.14E-06	2.37E-06	0.0488	0.0029	0.0078	0.0000	0.0001	0.0000	0.7234	0.0002	0.0002
2011	Agricultural Tractors	G4	175	Agricultural Equipment	0.02	0.03	2.12E-01	7.10E-05	3.51E-06	2.40E-05	1.91E-08	1.53E-07	8.84E-08	1.92E-03	1.98E-07	4.34E-07	0.0272	0.0013	0.0092	0.0000	0.0001	0.0000	0.7354	0.0001	0.0002
2011	Air Compressors	D	15	Light Commercial Equipment	0.35	0.78	2.58E-01	1.91E-05	4.97E-06	2.96E-05	4.38E-08	2.02E-06	1.86E-06	0.0028117	4.485E-07	0	0.0033	0.0009	0.0051	0.0000	0.0003	0.0003	0.4811	0.0001	-
2011	Air Compressors	D	25	Light Commercial Equipment	0.69	1.54	1.02E+00	5.95E-05	2.17E-05	1.03E-04	1.41E-07	6.66E-06	6.12E-06	0.0111388	1.961E-06	0	0.0031	0.0011	0.0053	0.0000	0.0003	0.0003	0.5773	0.0001	-
2011	Air Compressors	D	50	Light Commercial Equipment	6.29	14.03	1.46E+01	1.79E-03	6.74E-04	1.60E-03	2.02E-06	1.62E-04	1.49E-04	0.1560519	6.08E-05	0	0.0051	0.0019	0.0046	0.0000	0.0005	0.0004	0.4450	0.0002	-
2011	Air Compressors	D	120	Light Commercial Equipment	41.89	93.42	2.01E+02	1.51E-02	4.02E-03	2.48E-02	2.57E-05	2.24E-03	2.06E-03	2.191054	0.0003624	0	0.0027	0.0007	0.0044	0.0000	0.0004	0.0004	0.3909	0.0001	-
2011	Air Compressors	D	175	Light Commercial Equipment	1.59	3.54	1.43E+01	8.85E-04	1.93E-04	1.56E-03	1.76E-06	8.88E-05	8.17E-05	0.1563223	1.738E-05	0	0.0029	0.0006	0.0051	0.0000	0.0003	0.0003	0.5052	0.0001	-
2011	Air Compressors	D	250	Light Commercial Equipment	2.23	4.98	2.96E+01	7.53E-04	2.57E-04	3.01E-03	3.67E-06	9.44E-05	8.68E-05	0.3261265	2.322E-05	0	0.0012	0.0004	0.0048	0.0000	0.0002	0.0001	0.5244	0.0000	-
2011	Air Compressors	D	500	Light Commercial Equipment	2.91	6.49	6.81E+01	1.87E-03	5.35E-04	6.12E-03	7.37E-06	2.02E-04	1.86E-04	0.7511736	4.83E-05	0	0.0012	0.0003	0.0038	0.0000	0.0001	0.0001	0.4631	0.0000	-
2011	Air Compressors	D	750	Light Commercial Equipment	1.09	2.43	3.94E+01	1.08E-03	3.15E-04	3.65E-03	4.37E-06	1.19E-04	1.09E-04	0.4343337	2.843E-05	0	0.0012	0.0003	0.0040	0.0000	0.0001	0.0001	0.4771	0.0000	-
2011	Air Compressors	D	1000	Light Commercial Equipment	0.03	0.06	1.32E+00	4.62E-05	1.33E-05	1.62E-04	1.46E-07	4.69E-06	4.32E-06	0.0145634	1.197E-06	0	0.0015	0.0004	0.0054	0.0000	0.0002	0.0001	0.4859	0.0000	-
2011	Air Compressors	G4	5	Light Commercial Equipment	23.53	36.41	8.01E+00	1.53E-02	1.29E-03	5.80E-04	1.67E-06	1.57E-05	9.10E-06	4.83E-02	7.30E-05	7.13E-05	0.1685	0.0142	0.0064	0.0000	0.0002	0.0001	0.5302	0.0008	0.0008
2011	Air Compressors	G4	5	Light Commercial Equipment	18.49	19.24	4.23E+00	8.09E-03	6.83E-04	3.06E-04	8.81E-07	8.32E-06	4.81E-06	2.55E-02	3.86E-05	3.77E-05	0.1681	0.0142	0.0064	0.0000	0.0002	0.0001	0.5302	0.0008	0.0008
2011	Air Compressors	G4	15	Light Commercial Equipment	11.91	18.44	7.07E+00	2.03E-02	5.55E-04	4.10E-04	9.75E-07	2.87E-04	1.66E-04	3.42E-02	3.13E-05	4.31E-05	0.1469	0.0040	0.0030	0.0000	0.0021	0.0012	0.2474	0.0002	0.0003
2011	Air Compressors	G4	15	Light Commercial Equipment	9.36	9.74	3.73E+00	1.07E-02	2.86E-04	2.11E-04	5.15E-07	1.52E-04	8.76E-05	1.81E-02	1.61E-05	2.25E-05	0.1465	0.0039	0.0029	0.0000	0.0021	0.0012	0.2474	0.0002	0.0003
2011	Air Compressors	G4	25	Light Commercial Equipment	1.61	2.49	2.39E+00	7.06E-03	1.92E-04	1.24E-04	2.84E-07	9.39E-05	5.43E-05	1.12E-02	1.08E-05	8.95E-06	0.2272	0.0062	0.0040	0.0000	0.0030	0.0017	0.3605	0.0003	0.0003
2011	Air Compressors	G4	25	Light Commercial Equipment	1.26	1.31	1.26E+00	3.73E-03	9.96E-05	6.42E-05	1.50E-07	4.97E-05	2.87E-05	5.92E-03	5.63E-06	4.68E-06	0.2268	0.0061	0.0039	0.0000	0.0030	0.0017	0.3605	0.0003	0.0003
2011	Air Compressors	G4	50	Light Commercial Equipment	2.74	3.63	7.89E+00	8.61E-03	3.07E-04	4.21E-04	7.47E-07	4.71E-06	2.72E-06	6.14E-02	1.73E-05	1.92E-05	0.0949	0.0034	0.0046	0.0000	0.0001	0.0000	0.6769	0.0002	0.0002
2011	Air Compressors	G4	120	Light Commercial Equipment	8.89	11.77	4.50E+01	2.25E-02	1.30E-03	3.63E-03	3.81E-06	3.05E-05	1.76E-05	0.3940287	7.321E-05	9.963E-05	0.0318	0.0018	0.0051	0.0000	0.0000	0.0000	0.5578	0.0001	0.0001
2011	Air Compressors	G4	175	Light Commercial Equipment	0.60	0.79	5.43E+00	1.73E-03	7.68E-05	5.26E-04	4.90E-07	3.93E-06	2.27E-06	0.0493495	4.333E-06	1.007E-05	0.0250	0.0011	0.0076	0.0000	0.0001	0.0000	0.7121	0.0001	0.0001
2011	Asphalt Pavers	G4	15	Construction and Mining Equipment	0.42	0.46	2.65E-01	7.60E-04	2.00E-05	1.48E-05	3.66E-08	1.08E-05	6.22E-06	1.28E-03	1.13E-06	1.31E-06	0.2220	0.0058	0.0043	0.0000	0.0031	0.0018	0.3749	0.0003	0.0004
2011	Asphalt Pavers	G4	25	Construction and Mining Equipment	0.72	0.78	1.14E+00	3.37E-03	8.82E-05	5.71E-05	1.36E-07	4.50E-05	2.60E-05	5.37E-03	4.99E-06	3.45E-06	0.3456	0.0090	0.0059	0.0000	0.0046	0.0027	0.5499	0.0005	0.0004
2011	Asphalt Pavers	G4	50	Construction and Mining Equipment	0.32	0.35	8.12E-01	8.78E-04	3.25E-05	4.79E-05	7.70E-08	4.85E-07	2.81E-07	6.34E-03	1.83E-06	2.03E-06	0.1011	0.0037	0.0055	0.0000	0.0001	0.0000	0.7294	0.0002	0.0002
2011	Asphalt Pavers	G4	120	Construction and Mining Equipment	0.18	0.19	7.51E-01	3.84E-04	2.25E-05	6.86E-05	6.34E-08	5.08E-07	2.94E-07	6.56E-03	1.27E-06	1.78E-06	0.0335	0.0020	0.0060	0.0000	0.0000	0.0000	0.5729	0.0001	0.0002
2011	Balers	D	50	Agricultural Equipment	0.00	0.00	2.51E-04	2.06E-08	7.05E-09	2.61E-08	3.52E-11	2.03E-09	1.87E-09	2.724E-06	6.359E-10	0	0.0055	0.0019	0.0070	0.0000	0.0005	0.0005	0.7267	0.0002	-
2011	Balers	D	120	Agricultural Equipment	0.40	0.11	2.63E-01	1.74E-05	4.26E-06	3.08E-05	3.37E-08	2.13E-06	1.96E-06	0.0028764	3.846E-07	0	0.0028	0.0007	0.0049	0.0000	0.0003	0.0003	0.4542	0.0001	-
2011	Balers	G4	50	Agricultural Equipment	0.53	0.10	1.99E-01	1.67E-04	6.01E-06	1.16E-05	1.99E-08	1.25E-07	7.24E-08	1.63E-03	3.40E-07	5.23E-07	0.0680	0.0024	0.0047	0.0000	0.0001	0.0000	0.6648	0.0001	0.0002
2011	Balers	G4	120	Agricultural Equipment	0.27	0.05	1.69E-01	6.56E-05	3.69E-06	1.53E-05	1.46E-08	1.17E-07	6.77E-08	1.51E-03	2.09E-07	4.29E-07	0.0218	0.0012	0.0051	0.0000	0.0000	0.0000	0.5009	0.0001	0.0001
2011	Bore/Drill Rigs	D	15	Construction and Mining Equipment	0.06	0.12	5.89E-02	3.93E-06	7.50E-07	4.70E-06	1.00E-08	1.84E-07	1.69E-07	0.0006443	6.767E-08	0	0.0042	0.0008	0.0050	0.0000	0.0002	0.0002	0.6891	0.0001	-
2011	Bore/Drill Rigs	D	25	Construction and Mining Equipment	0.17	0.37	2.72E-01	1.23E-05	3.64E-06	2.32E-05	3.79E-08	1.10E-06	1.01E-06	0.0029871	3.28E-07	0	0.0026	0.0008	0.0050	0.0000	0.0002	0.0002	0.6390	0.0001	-
2011	Bore/Drill Rigs	D	50	Construction and Mining Equipment	0.73	1.70	2.41E+00	2.04E-04	3.68E-05	2.36E-04	3.40E-07	1.43E-05	1.32E-05	0.0263151	3.321E-06	0	0.0048	0.0009	0.0056	0.0000	0.0003	0.0003	0.6202	0.0001	-
2011	Bore/Drill Rigs	D	120	Construction and Mining Equipment	2.25	5.21	1.83E+01	1.24E-03	1.57E-04	1.45E-03	2.35E-06	1.04E-04	9.56E-05	0.2006595	1.418E-05	0	0.0040	0.0005	0.0046	0.0000	0.0003	0.0003	0.6421	0.0000	-
2011	Bore/Drill Rigs	D	175	Construction and Mining Equipment	0.52	1.20	7.73E+00	4.54E-04	4.98E-05	4.96E-04	9.55E-07	2.68E-05	2.47E-05	0.0849169	4.491E-06	0	0.0043	0.0005	0.0047	0.0000	0.0003	0.0002	0.8054	0.0000	-
2011	Bore/Drill Rigs	D	250	Construction and Mining Equipment	0.45	1.04	8.81E+00	1.78E-04	4.60E-05	5.22E-04	1.10E-06	1.66E-05	1.53E-05	0.0973957	4.152E-06	0	0.0014	0.0004	0.0040	0.0000	0.0001	0.0001	0.7517	0.0000	-
2011	Bore/Drill Rigs	D	500	Construction and Mining Equipment	1.00	2.31	3.24E+01	6.38E-04	1.63E-04	1.71E-03	3.52E-06	5.96E-05	5.48E-05	0.3586475	1.467E-05	0	0.0011	0.0003	0.0030	0.0000	0.0001	0.0001	0.6221	0.0000	-
2011	Bore/Drill Rigs	D	750	Construction and Mining Equipment	21.10	48.77	1.36E+03	2.67E-02	6.86E-03	7.30E-02	1.51E-04	2.51E-03	2.31E-03	14.986	0.0006191	0	0.0015	0.0004	0.0040	0.0000	0.0001	0.0001	0.8194	0.0000	-
2011	Bore/Drill Rigs	D	1000	Construction and Mining Equipment	35.40	81.73	3.43E+03	6.90E-02	1.99E-02	3.01E-01	3.81E-04	7.64E-03	7.03E-03	37.89939	0.0017938	0	0.0017	0.0005	0.0074	0.0000	0.0002	0.0002	0.9274	0.0000	-
2011	Bore/Drill Rigs	G4	15	Construction and Mining Equipment	0.19	0.07	5.16E-02	1.49E-04	3.92E-06	2.66E-06	7.07E-09	2.08E-06	1.20E-06	2.48E-04	2.22E-07	2.12E-07	0.3006	0.0079	0.0053	0.0000	0.0042	0.0024	0.4986	0.0004	0.0004
2011	Bore/Drill Rigs	G4	25	Construction and Mining Equipment	0.97	0.33	4.73E-01	1.41E-03	3.62E-05	2.19E-05	5.62E-08	1.86E-05	1.07E-05	2.22E-03	2.05E-06	1.38E-06	0.3421	0.0088	0.0053	0.0000	0.0045	0.0026	0.5385	0.0005	0.0003
2011	Bore/Drill Rigs	G4	50	Construction and Mining Equipment	0.10	0.03	7.86E-02	6.86E-05	2.48E-06	4.60E-06	7.80E-09	4.91E-08	2.84E-08	6.41E-04	1.40E-07	1.82E-07	0.0933	0.0034	0.0063	0.0000	0.0001	0.0000	0.8731	0.0002	0.0002
2011	Bore/Drill Rigs	G4	120	Construction and Mining Equipment	0.46	0.13	8.97E-01	3.63E-04	2.06E-05	8.16E-05	7.74E-08	6.20E-07	3.59E-07	8.01E-03	1.16E-06	1.66E-06	0.0449	0.0025	0.0101	0.0000	0.0001	0.0000	0.9892	0.0001	0.0002
2011	Bore/Drill Rigs	G4	175	Construction and Mining Equipment	0.11	0.03	3.02E-01	8.76E-05	4.09E-06	3.18E-05	2.74E-08	2.20E-07	1.27E-07	2.76E-03	2.31E-07	5.24E-07	0.0300	0.0014	0.0109	0.0000	0.0001	0.0000	0.9446	0.0001	0.0002
2011	Cement and Mortar Mixers	D	15	Construction and Mining Equipment	2.86	2.36	6.80E-01	4.55E-05	8.97E-06	5.70E-05	1.16E-07	3.02E-06	2.78E-06	0.00744	8.096E-07	0	0.0026	0.0005	0.0032	0.0000	0.0002	0.0002	0.4210	0.0000	-
2011	Cement and Mortar Mixers	D	25	Construction and Mining Equipment	0.26	0.21	1.70E-01	9.46E-06	3.36E-06	1.68E-05	2.36E-08	1.04E-06	9.60E-07	0.0018604	3.035E-07	0	0.0036	0.0013	0.0064	0.0000	0.0004	0.0004	0.7016	0.0001	-
2011	Cement and Mortar Mixers	G4	5	Construction and Mining Equipment	64.93	16.38	4.17E+00	9.81E-03	5.17E-04	2.32E-04	7.90E-07	7.46E-06	4.31E-06	2.29E-02	2.92E-05	3.01E-05	0.2396	0.0126	0.0057	0.0000	0.0002	0.0001	0.5586	0.0007	0.0007
2011	Cement and Mortar Mixers	G4	15	Construction and Mining Equipment	110.02	27.76	1.39E+01	4.22E-02	1.43E-03	5.93E-04	1.77E-06	5.03E-04	2.91E-04	6.20E-02	8.09E-05	6.33E-05	0.2029	0.0069	0.0028	0.0000	0.0024	0.0014	0.2979	0.0004	0.0003
2011	Cement and Mortar Mixers	G4	25	Construction and Mining Equipment	0.46	0.12	1.83E-01	5.62E-04	1.76E-05	7.02E-06	2.07E-08	6.61E-06	3.82E-06	8.16E-04	9.97E-07	4.61E-07	0.3849	0.0121	0.0048	0.0000	0.0045	0.0026	0.5586	0.0007	0.0003
2011	Combines	D	120	Agricultural Equipment	0.30	0.13	5.42E-01	3.65E-05	9.09E-06	6.44E-05	6.95E-08	4.58E-06	4.22E-06	0.0059254	8.205E-07	0	0.0049	0.0012	0.0086	0.0000	0.0006	0.0006	0.7893	0.0001	-

2011 Combines	D	175 Agricultural Equipment	0.45	0.19	1.05E+00	5.81E-05	1.17E-05	1.11E-04	1.30E-07	5.01E-06	4.61E-06	0.0115647	1.056E-06	0	0.0036	0.0007	0.0068	0.0000	0.0003	0.0003	0.7116	0.0001	-
2011 Combines	D	250 Agricultural Equipment	0.48	0.20	1.58E+00	3.79E-05	1.12E-05	1.54E-04	1.96E-07	4.23E-06	3.89E-06	0.0174094	1.013E-06	0	0.0015	0.0005	0.0062	0.0000	0.0002	0.0002	0.7016	0.0000	-
2011 Combines	D	500 Agricultural Equipment	0.02	0.01	8.66E-02	2.18E-06	5.60E-07	7.84E-06	9.39E-09	2.22E-07	2.04E-07	0.0009564	5.052E-08	0	0.0011	0.0003	0.0040	0.0000	0.0001	0.0001	0.4824	0.0000	-
2011 Combines	G4	120 Agricultural Equipment	0.04	0.01	8.76E-02	2.22E-05	9.72E-07	3.71E-06	7.80E-09	6.25E-08	3.61E-08	8.07E-04	5.50E-08	9.61E-08	0.0298	0.0013	0.0050	0.0000	0.0001	0.0000	1.0845	0.0001	0.0001
2011 Combines	G4	175 Agricultural Equipment	0.02	0.01	7.57E-02	2.22E-05	5.11E-07	3.61E-06	6.90E-09	5.53E-08	3.20E-08	6.94E-04	2.89E-08	7.19E-08	0.0368	0.0008	0.0060	0.0000	0.0001	0.0001	1.1516	0.0000	0.0001
2011 Combines	G4	250 Agricultural Equipment	0.00	0.00	1.61E-02	4.85E-06	9.08E-08	7.68E-07	1.51E-09	1.21E-08	6.98E-09	1.47E-04	5.14E-09	1.62E-08	0.0305	0.0006	0.0048	0.0000	0.0001	0.0000	0.9267	0.0000	0.0001
2011 Concrete/Industrial Saws	D	25 Construction and Mining Equipment	0.02	0.04	2.73E-02	1.23E-06	3.63E-07	2.30E-06	3.80E-09	1.02E-07	9.38E-08	0.0002996	3.275E-08	0	0.0027	0.0008	0.0051	0.0000	0.0002	0.0002	0.6585	0.0001	-
2011 Concrete/Industrial Saws	D	50 Construction and Mining Equipment	0.20	0.31	4.38E-01	4.86E-05	1.78E-05	4.71E-05	6.09E-08	4.44E-06	4.09E-06	0.0047091	1.608E-06	0	0.0062	0.0023	0.0060	0.0000	0.0006	0.0005	0.6036	0.0002	-
2011 Concrete/Industrial Saws	D	120 Construction and Mining Equipment	0.34	0.54	1.85E+00	1.34E-04	3.41E-05	2.21E-04	2.36E-07	1.87E-05	1.72E-05	0.020145	3.075E-06	0	0.0041	0.0010	0.0068	0.0000	0.0006	0.0005	0.6174	0.0001	-
2011 Concrete/Industrial Saws	D	175 Construction and Mining Equipment	0.01	0.02	1.30E-01	7.80E-06	1.62E-06	1.38E-05	1.61E-08	7.40E-07	6.81E-07	0.001427	1.46E-07	0	0.0050	0.0010	0.0089	0.0000	0.0005	0.0004	0.9146	0.0001	-
2011 Concrete/Industrial Saws	G4	5 Construction and Mining Equipment	3.58	1.27	3.40E-01	7.85E-04	4.34E-05	1.94E-05	6.50E-08	6.14E-07	3.55E-07	1.88E-03	2.45E-06	2.44E-06	0.2464	0.0136	0.0061	0.0000	0.0002	0.0001	0.5908	0.0008	0.0008
2011 Concrete/Industrial Saws	G4	15 Construction and Mining Equipment	16.08	13.67	9.36E+00	2.69E-02	6.99E-04	5.17E-04	1.30E-06	3.81E-04	2.20E-04	4.54E-02	3.95E-05	4.25E-05	0.2620	0.0068	0.0050	0.0000	0.0037	0.0021	0.4431	0.0004	0.0004
2011 Concrete/Industrial Saws	G4	25 Construction and Mining Equipment	5.03	4.28	5.70E+00	1.69E-02	4.36E-04	2.82E-04	6.80E-07	2.25E-04	1.30E-04	2.68E-02	2.47E-05	1.79E-05	0.3152	0.0082	0.0053	0.0000	0.0042	0.0024	0.5022	0.0005	0.0003
2011 Concrete/Industrial Saws	G4	50 Construction and Mining Equipment	0.37	0.62	1.73E+00	1.22E-03	1.81E-05	2.66E-05	1.79E-07	1.13E-06	6.52E-07	1.47E-02	1.02E-06	2.06E-06	0.0784	0.0012	0.0017	0.0000	0.0001	0.0000	0.9429	0.0001	0.0001
2011 Concrete/Industrial Saws	G4	120 Construction and Mining Equipment	0.21	0.36	1.69E+00	3.34E-04	7.45E-06	1.70E-05	1.52E-07	1.22E-06	7.04E-07	1.57E-02	4.20E-07	1.25E-06	0.0155	0.0003	0.0008	0.0000	0.0001	0.0000	0.7325	0.0000	0.0001
2011 Cranes	D	50 Construction and Mining Equipment	0.19	0.67	7.28E-01	1.03E-04	4.00E-05	8.40E-05	1.00E-07	9.17E-06	8.44E-06	0.0077533	3.613E-06	0	0.0061	0.0024	0.0050	0.0000	0.0005	0.0005	0.4633	0.0002	-
2011 Cranes	D	120 Construction and Mining Equipment	2.09	7.34	1.69E+01	1.35E-03	3.87E-04	2.28E-03	2.16E-06	2.11E-04	1.94E-04	0.1839637	3.488E-05	0	0.0031	0.0009	0.0052	0.0000	0.0005	0.0004	0.4175	0.0001	-
2011 Cranes	D	175 Construction and Mining Equipment	2.09	7.34	2.70E+01	1.78E-03	4.24E-04	3.23E-03	3.32E-06	1.90E-04	1.75E-04	0.2947376	3.823E-05	0	0.0028	0.0007	0.0050	0.0000	0.0003	0.0003	0.4587	0.0001	-
2011 Cranes	D	250 Construction and Mining Equipment	4.05	14.23	7.25E+01	2.32E-03	8.32E-04	8.21E-03	8.97E-06	3.04E-04	2.80E-04	0.7975211	7.507E-05	0	0.0013	0.0005	0.0046	0.0000	0.0002	0.0002	0.4482	0.0000	-
2011 Cranes	D	500 Construction and Mining Equipment	1.49	5.22	4.27E+01	1.59E-03	4.49E-04	4.30E-03	4.61E-06	1.63E-04	1.50E-04	0.4693888	4.052E-05	0	0.0012	0.0003	0.0033	0.0000	0.0001	0.0001	0.3599	0.0000	-
2011 Cranes	D	750 Construction and Mining Equipment	44.25	155.39	2.14E+03	7.97E-02	2.27E-02	2.21E-01	2.37E-04	8.28E-03	7.62E-03	23.5243	0.0020443	0	0.0014	0.0004	0.0038	0.0000	0.0001	0.0001	0.4037	0.0000	-
2011 Cranes	D	9999 Construction and Mining Equipment	55.59	195.04	8.61E+03	3.73E-01	1.01E-01	1.13E+00	9.51E-04	3.49E-02	3.21E-02	94.56921	0.0091086	0	0.0004	0.0001	0.0012	0.0000	0.0000	0.0000	0.0970	0.0000	-
2011 Cranes	G4	50 Construction and Mining Equipment	0.11	0.13	2.51E-01	2.80E-04	1.04E-05	1.49E-05	2.36E-08	1.49E-07	8.61E-08	1.94E-03	5.87E-07	6.92E-07	0.0865	0.0032	0.0046	0.0000	0.0000	0.0000	0.6006	0.0002	0.0002
2011 Cranes	G4	120 Construction and Mining Equipment	0.23	0.26	8.84E-01	4.67E-04	2.75E-05	8.15E-05	7.43E-08	5.96E-07	3.44E-07	7.69E-03	1.55E-06	2.27E-06	0.0300	0.0018	0.0052	0.0000	0.0000	0.0000	0.4949	0.0001	0.0001
2011 Cranes	G4	175 Construction and Mining Equipment	0.01	0.01	5.56E-02	1.79E-05	8.71E-07	6.18E-06	5.02E-09	4.03E-08	2.33E-08	5.05E-04	4.92E-08	1.28E-07	0.0197	0.0010	0.0068	0.0000	0.0000	0.0000	0.5575	0.0001	0.0001
2011 Crawler Tractors	D	50 Construction and Mining Equipment	0.08	0.23	2.65E-01	3.88E-05	1.54E-05	3.11E-05	3.64E-08	3.46E-06	3.19E-06	0.0028157	1.388E-06	0	0.0069	0.0027	0.0055	0.0000	0.0006	0.0006	0.4971	0.0002	-
2011 Crawler Tractors	D	120 Construction and Mining Equipment	44.53	128.54	3.89E+02	3.19E-02	9.43E-03	5.52E-02	4.96E-05	5.03E-03	4.63E-03	4.225698	0.0008513	0	0.0041	0.0012	0.0072	0.0000	0.0007	0.0006	0.5479	0.0001	-
2011 Crawler Tractors	D	175 Construction and Mining Equipment	15.07	43.50	2.41E+02	1.64E-02	4.04E-03	3.05E-02	2.96E-05	1.79E-03	1.65E-03	2.633336	0.0003645	0	0.0043	0.0011	0.0080	0.0000	0.0005	0.0004	0.6919	0.0001	-
2011 Crawler Tractors	D	250 Construction and Mining Equipment	12.95	37.38	2.82E+02	1.02E-02	3.63E-03	3.41E-02	3.49E-05	1.35E-03	1.24E-03	3.102289	0.0003278	0	0.0022	0.0008	0.0073	0.0000	0.0003	0.0003	0.6639	0.0001	-
2011 Crawler Tractors	D	500 Construction and Mining Equipment	8.87	25.62	3.02E+02	1.40E-02	3.55E-03	3.27E-02	3.26E-05	1.30E-03	1.19E-03	3.31729	0.0003204	0	0.0022	0.0006	0.0051	0.0000	0.0002	0.0002	0.5180	0.0001	-
2011 Crawler Tractors	D	750 Construction and Mining Equipment	18.15	52.40	1.11E+03	5.13E-02	1.31E-02	1.23E-01	1.22E-04	4.82E-03	4.43E-03	12.16392	0.001181	0	0.0026	0.0007	0.0062	0.0000	0.0002	0.0002	0.6190	0.0001	-
2011 Crawler Tractors	D	1000 Construction and Mining Equipment	18.15	52.35	1.57E+03	8.12E-02	1.98E-02	2.14E-01	1.73E-04	6.93E-03	6.37E-03	17.20975	0.0017876	0	0.0031	0.0008	0.0082	0.0000	0.0003	0.0002	0.6575	0.0001	-
2011 Crushing/Proc. Equipment	D	50 Construction and Mining Equipment	0.90	2.35	4.83E+00	6.37E-04	2.48E-04	5.43E-04	6.68E-07	5.80E-05	5.34E-05	0.0516455	2.242E-05	0	0.0108	0.0042	0.0092	0.0000	0.0010	0.0009	0.8795	0.0004	-
2011 Crushing/Proc. Equipment	D	120 Construction and Mining Equipment	2.53	6.62	2.52E+01	1.95E-03	5.48E-04	3.25E-03	3.23E-06	3.04E-04	2.80E-04	0.2749763	4.941E-05	0	0.0049	0.0014	0.0082	0.0000	0.0008	0.0007	0.6922	0.0001	-
2011 Crushing/Proc. Equipment	D	175 Construction and Mining Equipment	1.07	2.80	2.14E+01	1.36E-03	3.15E-04	2.46E-03	2.64E-06	1.44E-04	1.32E-04	0.2342767	2.84E-05	0	0.0055	0.0013	0.0100	0.0000	0.0006	0.0005	0.9549	0.0001	-
2011 Crushing/Proc. Equipment	D	250 Construction and Mining Equipment	0.11	0.28	3.09E+00	8.12E-05	2.90E-05	3.31E-04	3.83E-07	1.05E-05	9.66E-06	0.0340717	2.619E-06	0	0.0023	0.0008	0.0095	0.0000	0.0003	0.0003	0.9773	0.0001	-
2011 Crushing/Proc. Equipment	D	500 Construction and Mining Equipment	0.60	1.57	2.66E+01	7.52E-04	2.27E-04	2.51E-03	2.88E-06	8.39E-05	7.72E-05	0.2931885	2.044E-05	0	0.0019	0.0006	0.0064	0.0000	0.0002	0.0002	0.7466	0.0001	-
2011 Crushing/Proc. Equipment	D	750 Construction and Mining Equipment	1.13	2.97	7.93E+01	2.20E-03	6.87E-04	7.80E-03	8.79E-06	2.55E-04	2.35E-04	0.8739194	6.195E-05	0	0.0020	0.0006	0.0070	0.0000	0.0002	0.0002	0.7844	0.0001	-
2011 Crushing/Proc. Equipment	D	9999 Construction and Mining Equipment	1.13	2.97	1.76E+02	6.54E-03	1.93E-03	2.26E-02	1.95E-05	6.71E-04	6.17E-04	1.940914	0.0001738	0	0.0004	0.0001	0.0015	0.0000	0.0000	0.0000	0.1307	0.0000	-
2011 Crushing/Proc. Equipment	G4	15 Construction and Mining Equipment	0.18	0.14	1.04E-01	3.00E-04	7.76E-06	5.74E-06	1.45E-08	4.25E-06	2.46E-06	5.07E-04	4.39E-07	4.54E-07	0.2855	0.0074	0.0055	0.0000	0.0040	0.0023	0.4828	0.0004	0.0004
2011 Crushing/Proc. Equipment	G4	25 Construction and Mining Equipment	0.12	0.09	1.25E-01	3.71E-04	9.55E-06	6.18E-06	1.50E-08	4.95E-06	2.86E-06	5.91E-04	5.40E-07	3.88E-07	0.3233	0.0083	0.0054	0.0000	0.0043	0.0025	0.5150	0.0005	0.0003
2011 Crushing/Proc. Equipment	G4	120 Construction and Mining Equipment	0.13	0.09	6.88E-01	3.16E-04	1.83E-05	6.30E-05	5.87E-08	4.71E-07	2.72E-07	6.08E-03	1.03E-06	1.19E-06	0.0604	0.0035	0.0120	0.0000	0.0001	0.0001	1.1611	0.0002	0.0002
2011 Dumpers/Tenders	D	25 Construction and Mining Equipment	0.13	0.24	8.48E-02	4.02E-06	1.26E-06	7.67E-06	1.18E-08	4.11E-07	3.78E-07	0.0009302	1.138E-07	0	0.0013	0.0004	0.0025	0.0000	0.0001	0.0001	0.3047	0.0000	-
2011 Dumpers/Tenders	G4	5 Construction and Mining Equipment	3.31	1.35	1.82E-01	3.88E-04	2.61E-05	1.17E-05	3.63E-08	3.43E-07	1.98E-07	1.05E-03	1.47E-06	1.91E-06	0.1146	0.0077	0.0035	0.0000	0.0001	0.0001	0.3105	0.0004	0.0006
2011 Dumpers/Tenders	G4	15 Construction and Mining Equipment	7.07	2.89	1.12E+00	3.38E-03	1.13E-04	5.04E-05	1.44E-07	4.13E-05	2.38E-05	5.04E-03	6.41E-06	5.92E-06	0.1561	0.0052	0.0023	0.0000	0.0019	0.0011	0.2329	0.0003	0.0003
2011 Dumpers/Tenders	G4	25 Construction and Mining Equipment	1.31	0.54	4.40E-01	1.34E-03	4.20E-05	1.78E-05	5.00E-08	1.61E-05	9.33E-06	1.97E-03	2.38E-06	1.54E-06	0.2010	0.0063	0.0027	0.0000	0.0024	0.0014	0.2950	0.0004	0.0002
2011 Dumpers/Tenders	G4	120 Construction and Mining Equipment	0.08	0.03	7.40E-02	3.06E-05	1.74E-06	6.74E-06	6.37E-09	5.11E-08	2.95E-08	6.59E-04	9.83E-08	2.13E-07	0.0178	0.0010	0.0039	0.0000	0.0000	0.0000	0.3850	0.0001	0.0001
2011 Excavators	D	25 Construction and Mining Equipment	0.21	0.79	5.94E-01	2.68E-05	7.87E-06	4.98E-05	8.27E-08	1.97E-06	1.81E-06	0.0065207	7.102E-07	0	0.0027	0.0008	0.0050	0.0000	0.0002	0.0002	0.6570	0.0001	-
2011 Excavators	D	50 Construction and Mining Equipment	7.81	30.49	3.56E+01	4.63E-03	1.56E-03	3.96E-03	4.93E-06	3.92E-04	3.60E-04	0.3809988	0.000141	0	0.0061	0.0020	0.0052	0.0000	0.0005	0.0005	0.4999	0.0002	-
2011 Excavators	D	120 Construction and Mining Equipment	21.21	82.79	2.79E+02	2.18E-02	5.37E-03	3.26E-02	3.57E-05	3.02E-03	2.78E-03	3.044934	0.0004841	0	0.0044	0.0011	0.0066	0.0000	0.0006	0.0006	0.6130	0.0001	-
2011 Excavators	D	175 Construction and Mining Equipment	40.91	159.72	8.18E+02	5.34E-02	1.11E-02	8.31E-02	1.01E-04	5.04E-03	4.63E-03	8.953812	0.0009972	0	0.0038	0.0008	0.0059	0.0000	0.0004	0.0003	0.6407	0.0001	-
2011 Excavators	D	250 Construction and Mining Equipment	16.64	64.95	4.67E+02	1.22E-02	4.46E-03	4.44E-02	5.79E-05	1.51E-03	1.39E-03	5.148981	0.0004021	0	0.0015	0.0005	0.0055	0.0000	0.0002	0.0002	0.6342	0.0000	-
2011 Excavators	D	500 Construction and Mining Equipment	12.00	46.86	4.96E+02	1.35E-02	4.42E-03	4.13E-02	5.37E-05	1.50E-03	1.38E-03	5.471027	0.0003991	0	0.0012	0.0004	0.0035	0.0000	0.0001	0.0001	0.4671	0.0000	-
2011 Excavators	D	750 Construction and Mining Equipment	10.66	41.63	7.31E+02	1.99E-02	6.56E-03	6.30E-02	8.10E-05	2.24E-03	2.07E-03	8.057622	0.0005922	0	0.0013	0.0004	0.0040	0.0000	0.0001	0.0001	0.5161	0.0000	-
2011 Forklifts	C4	25 Industrial Equipment	0.04	0.14	1.40E-01	1.40E-04	8.82E-07	3.92E-06	0.00E+00	4.81E-07	4.43E-07	0.0007333	7.397E-06	0	0.0786	0.0005	0.0022	-	0.0003	0.0002	0.4105	0.0041	-
2011 Forklifts	C4	50 Industrial Equipment	28.24	139.38	1.86E+02	2.02E-02	1.66E-04	7.29E-03	0.00E+00	1.13E-04	1.04E-04	1.274972	0.0013956	0	0.0058	0.0000	0.0021	-	0.0000	0.0000	0.3659	0.0004	-
2011 Forklifts	C4	120 Industrial Equipment	99.11	489.19	1.17E+03	3.41E-01	1.02E-03	4.40E-02	0.00E+00	6.79E-04	6.25E-04	7.639825	0.0085124	0	0.0116	0.0000	0.0015	-	0.0000	0.0000	0.2603	0.0003	-
2011 Forklifts	C4	175 Industrial Equipment	3.63	17.90	8.75E+01	2.00E-02	5.30E-05	2.59E-03	0.00E+00	5.19E-05	4.77E-05	0.5831224	0.0004441	0	0.0128	0.0000	0.0017	-	0.0000	0.0000	0.3723	0.0003	-
2011 Forklifts	D	50 Industrial Equipment	3.64	17.95	1.22E+01	1.51E-03	4.85E-04	1.33E-03	1.70E-06	1.27E-04	1.17E-04	0.1315443	4.373E-05	0	0.0034	0.0011	0.0030	0.0000	0.0003	0.0003	0.2932	0.0001	-
2011 Forklifts	D	120 Industrial Equipment	5.70	28.16	4.03E+01	3.08E-03	7.17E-04	4.41E-03	5.15E-06	4.15E-04	3.82E-04	0.4391926	6.471E-05	0	0.0018	0.0004	0.0026	0.0000	0.0002	0.0002	0.2600	0.0000	-
2011 Forklifts	D	175 Industrial Equipment	5.73	28.30	7.24E+01	4.64E-03	9.05E-04	6.88E-03	8.92E-06	4.19E-04	3.86E-04	0.792382	8.167E-05	0	0.0019	0.0004	0.0028	0.0000	0.0002	0.0002	0.3200	0.0000	-
2011 Forklifts	D	250 Industrial Equipment	5.69	28.09	9.81E+01	2.29E-03	8.35E-04	8.69E-03	1.22E-05	2.75E-04	2.53E-04	1.082034	7.534E-05	0	0.0007	0.0002	0.0025	0.0000	0.0001	0.0001	0.3082	0.0000	-
2011 Forklifts	D	500 Industrial Equipment	2.44	12.02	6.04E+01	1.34E-03	4.82E-04	4.59E-03	6.54E-06	1.59E-04	1.46E-04	0.6663857	4.348E-05	0	0.0004	0.0002	0.0015	0.0000	0.0001	0.0000	0.2218	0.0000	-
2011 Forklifts	G4	25 Industrial Equipment	0.08	0.20	1.38E-01	4.13E-04	7.35E-06	5.63E-06	1.66E-08	3.65E-07	2.11E-07	6.53E-04	4.13E-07	5.30E-07	0.1653	0.0029	0.0023	0.0000	0.0001	0.0001	0.2613	0.0002	0.0002
2011 Forklifts	G4	50 Industrial Equipment	14.08	69.51	1.10E+02	2.02E-01	2.45E-03	4.72E-03	8.98E-06	5.65E-05	3.27E-05	7.38E-01	1.36E-04	2.83E-04	0.1163	0.0014	0.0027	0.0000	0.0000	0.0000	0.4248	0.0001	0.0002
2011 Forklifts	G4	120 Industrial Equipment	49.42	243.93	5.12E+02	3.46E-01	6.89E-03	2.30E-02	4.23E-05	3.39E-04	1.96E-04	4.37E+00	3.82E-04	1.18E-03	0.0237	0.0005	0.0016	0.0000	0.0000	0.0000	0.2988	0.0000	0.0001
2011 Forklifts	G4	175 Industrial Equipment	1.81	8.91	3.59E+01	1.35E-02	3.39E-04	1.69E-03	3.22E-06	2.58E-05	1.49E-05	3.24E-01	1.88E-05	6.26E-05	0.0173	0.0004	0.0022	0.0000	0.0000	0.0000	0.4156	0.0000	0.0001
2011 Gas Compressors	C4	50 Light Commercial Equipment	0.20	4.69	1.60E+01	1.62E-03	9.11E-06	3.31E-04	0.00E+00	8.44E-06	7.77E-06	0.1102289	7.641E-05	0	0.0138	0.0001	0.0028	-	0.0001	0.0001	0.9394	0.0007	-
2011 Gas Compressors	C4	120 Light Commercial Equipment	0.42	9.70	9.39E+01	2.59E-02	4.97E-05	1.96E-03	0.00E+00	4.80E-05	4.41E-05	0.6194296	0.0004167	0	0.0444	0.0001	0.0034	-	0.0001	0.0001	1.0643	0.0007	-
2011 Gas Compressors	C4	175 Light Commercial Equipment	0.07	1.56	2.41E+01	5.26E-03	1.39E-05	5.24E-04	0.00E+00	1.28E-05	1.18E-05	0.1612086	0.0001162	0	0.0384	0.0001	0.0038	-	0.0001	0.0001	1.1776	0.0008	-
2011 Gas Compressors	C4	250 Light Commercial Equipment	0.05	1.25	2.50E+01	6.05E-03	1.07E-05	5.08E-04	0.00E+00	1.48E-05	1.36E-05	0.1661462	8.942E-05	0	0.0387	0.0001	0.0032	-	0.0001	0.0001	1.0620	0.0006	-
2011 Gas Compressors	C4	500 Light Commercial Equipment	0.05	1.10	3.52E+01	8.52E-03	1.50E-05	7.15E-04	0.00E+00	2.08E-05	1.91E-05	0.2339893	0.0001259	0	0.0311	0.0001	0.0026	-	0.0001	0.0001	0.8546	0.0005	-
2011 Generator Sets	C4	120 Light Commercial Equipment	1.30	0.41	2.56E+00	5.35E-04	2.05E-06	1.36E-04	0.00E+00	1.52E-06	1.40E-06	0.0171294	1.722E-05	0	0.0219	0.0001	0.0056	-	0.0001	0.0001	0.6996	0.0007	-
2011 Generator Sets	C4	175 Light Commercial Equipment	1.08	0.34	3.70E+00	6.42E-04	2.38E-06	1.98E-04	0.00E+00	2.22E-06	2.04E-06	0.0249793	1.996E-05	0	0.0217	0.0001	0.0067	-	0.0001	0.0001	0.8438	0.0007	-
2011 Generator Sets	D	15 Light Commercial Equipment	34.18	31.61	1.48E+01	1.10E-03	2.45E-04	1.66E-03	2.51E-06	9.66E-05	8.88E-05	0.1611796	2.211E-05	0	0.0046	0.0010	0.0070	0.0000	0.0004	0.0004	0.6799	0.0001	-

2011 Generator Sets	D	25 Light Commercial Equipment	25.00	23.12	1.86E+01	1.09E-03	3.17E-04	1.88E-03	2.58E-06	1.11E-04	1.02E-04	0.2036281	2.857E-05	0	0.0038	0.0011	0.0065	0.0000	0.0004	0.0004	0.7046	0.0001	-
2011 Generator Sets	D	50 Light Commercial Equipment	30.53	28.23	3.99E+01	3.75E-03	1.30E-03	4.15E-03	5.58E-06	3.51E-04	3.23E-04	0.4319146	0.0001169	0	0.0053	0.0018	0.0059	0.0000	0.0005	0.0005	0.6119	0.0002	-
2011 Generator Sets	D	120 Light Commercial Equipment	46.39	42.90	1.53E+02	1.05E-02	2.52E-03	1.74E-02	1.96E-05	1.35E-03	1.24E-03	1.670545	0.0002271	0	0.0041	0.0010	0.0067	0.0000	0.0005	0.0005	0.6490	0.0001	-
2011 Generator Sets	D	175 Light Commercial Equipment	2.74	2.54	1.64E+01	9.33E-04	1.79E-04	1.65E-03	2.02E-06	8.13E-05	7.48E-05	0.1798427	1.616E-05	0	0.0042	0.0008	0.0074	0.0000	0.0004	0.0003	0.8106	0.0001	-
2011 Generator Sets	D	250 Light Commercial Equipment	1.53	1.42	1.36E+01	3.18E-04	9.51E-05	1.28E-03	1.69E-06	3.63E-05	3.34E-05	0.1504221	8.583E-06	0	0.0018	0.0005	0.0072	0.0000	0.0002	0.0002	0.8493	0.0000	-
2011 Generator Sets	D	500 Light Commercial Equipment	3.41	3.15	4.80E+01	1.20E-03	2.99E-04	4.05E-03	5.20E-06	1.20E-04	1.11E-04	0.5302195	2.7E-05	0	0.0015	0.0004	0.0051	0.0000	0.0002	0.0001	0.6731	0.0000	-
2011 Generator Sets	D	750 Light Commercial Equipment	2.12	1.96	4.82E+01	1.21E-03	3.11E-04	4.19E-03	5.35E-06	1.23E-04	1.13E-04	0.5318012	2.809E-05	0	0.0016	0.0004	0.0057	0.0000	0.0002	0.0002	0.7244	0.0000	-
2011 Generator Sets	D	9999 Light Commercial Equipment	0.55	0.51	2.42E+01	7.71E-04	2.17E-04	2.78E-03	2.68E-06	7.84E-05	7.21E-05	0.2669522	1.953E-05	0	0.0003	0.0001	0.0011	0.0000	0.0000	0.0000	0.1048	0.0000	-
2011 Generator Sets	G2	2 Light Commercial Equipment	13.99	5.15	3.28E-01	7.47E-04	8.74E-05	1.28E-05	6.82E-08	6.64E-06	6.10E-06	1.66E-03	5.43E-06	3.77E-06	0.1452	0.0170	0.0025	0.0000	0.0013	0.0012	0.3219	0.0011	0.0007
2011 Generator Sets	G2	2 Light Commercial Equipment	10.99	2.72	1.85E-01	4.39E-04	5.77E-05	6.63E-06	3.61E-08	3.74E-06	3.44E-06	8.75E-04	3.59E-06	1.97E-06	0.1614	0.0212	0.0024	0.0000	0.0014	0.0013	0.3219	0.0013	0.0007
2011 Generator Sets	G2	15 Light Commercial Equipment	0.14	0.05	2.97E-02	8.14E-05	2.09E-06	1.18E-06	6.19E-09	8.10E-08	7.45E-08	1.50E-04	1.30E-07	1.26E-07	0.2092	0.0054	0.0030	0.0000	0.0002	0.0002	0.3863	0.0003	0.0003
2011 Generator Sets	G2	15 Light Commercial Equipment	0.11	0.03	1.65E-02	4.54E-05	2.73E-06	5.63E-07	3.17E-09	1.04E-07	9.54E-08	7.70E-05	1.70E-07	6.11E-08	0.2278	0.0137	0.0028	0.0000	0.0005	0.0005	0.3863	0.0008	0.0003
2011 Generator Sets	G4	5 Light Commercial Equipment	183.65	67.54	1.73E+01	4.32E-02	3.28E-03	7.15E-04	3.00E-06	2.98E-04	1.72E-04	8.70E-02	1.85E-04	1.05E-04	0.2557	0.0194	0.0042	0.0000	0.0018	0.0010	0.5150	0.0011	0.0006
2011 Generator Sets	G4	5 Light Commercial Equipment	144.30	35.69	9.61E+00	2.52E-02	1.89E-03	3.74E-04	1.59E-06	1.55E-04	8.97E-05	4.60E-02	1.07E-04	5.50E-05	0.2823	0.0212	0.0042	0.0000	0.0017	0.0010	0.5150	0.0012	0.0006
2011 Generator Sets	G4	15 Light Commercial Equipment	504.45	185.52	1.13E+02	3.31E-01	8.48E-03	5.03E-03	1.53E-05	2.81E-04	1.62E-04	5.37E-01	4.79E-04	4.78E-04	0.2380	0.0061	0.0036	0.0000	0.0002	0.0001	0.3863	0.0003	0.0003
2011 Generator Sets	G4	15 Light Commercial Equipment	396.35	98.04	6.29E+01	1.91E-01	6.03E-03	2.49E-03	8.10E-06	1.47E-04	8.50E-05	2.84E-01	3.41E-04	2.44E-04	0.2595	0.0082	0.0034	0.0000	0.0002	0.0001	0.3863	0.0005	0.0003
2011 Generator Sets	G4	25 Light Commercial Equipment	271.03	99.67	1.31E+02	3.93E-01	9.49E-03	5.39E-03	1.55E-05	3.19E-04	1.84E-04	6.10E-01	5.37E-04	3.72E-04	0.3151	0.0076	0.0043	0.0000	0.0003	0.0001	0.4893	0.0004	0.0003
2011 Generator Sets	G4	25 Light Commercial Equipment	212.95	52.68	7.17E+01	2.20E-01	6.37E-03	2.59E-03	8.17E-06	1.67E-04	9.64E-05	3.22E-01	3.60E-04	1.86E-04	0.3339	0.0097	0.0039	0.0000	0.0003	0.0001	0.4893	0.0005	0.0003
2011 Generator Sets	G4	50 Light Commercial Equipment	90.22	28.39	6.46E+01	5.35E-02	1.64E-03	3.16E-03	6.49E-06	4.09E-05	2.36E-05	5.33E-01	9.26E-05	1.47E-04	0.0754	0.0023	0.0045	0.0000	0.0001	0.0000	0.7515	0.0001	0.0002
2011 Generator Sets	G4	120 Light Commercial Equipment	17.42	5.48	2.93E+01	1.05E-02	5.17E-04	2.18E-03	2.55E-06	2.05E-05	1.18E-05	2.64E-01	2.92E-05	5.53E-05	0.0320	0.0016	0.0066	0.0000	0.0001	0.0000	0.8031	0.0001	0.0002
2011 Generator Sets	G4	175 Light Commercial Equipment	1.65	0.52	4.66E+00	1.34E-03	4.88E-05	3.92E-04	4.24E-07	3.40E-06	1.97E-06	4.27E-02	2.76E-06	7.35E-06	0.0295	0.0011	0.0086	0.0000	0.0001	0.0000	0.9421	0.0001	0.0002
2011 Graders	D	50 Construction and Mining Equipment	0.08	0.21	2.64E-01	3.57E-05	1.33E-05	2.99E-05	3.65E-08	3.14E-06	2.88E-06	0.0028216	1.201E-06	0	0.0070	0.0026	0.0058	0.0000	0.0006	0.0006	0.5503	0.0002	-
2011 Graders	D	120 Construction and Mining Equipment	5.24	13.68	4.70E+01	3.70E-03	9.98E-04	6.00E-03	6.01E-06	5.52E-04	5.08E-04	0.5124404	9.005E-05	0	0.0045	0.0012	0.0073	0.0000	0.0007	0.0006	0.6241	0.0001	-
2011 Graders	D	175 Construction and Mining Equipment	17.89	46.75	2.65E+02	1.73E-02	3.88E-03	2.99E-02	3.26E-05	1.75E-03	1.61E-03	2.894092	0.0003498	0	0.0042	0.0009	0.0073	0.0000	0.0004	0.0004	0.7075	0.0001	-
2011 Graders	D	250 Construction and Mining Equipment	11.10	29.01	2.26E+02	6.80E-03	2.41E-03	2.41E-02	2.81E-05	8.73E-04	8.03E-04	2.494125	0.0002177	0	0.0019	0.0007	0.0067	0.0000	0.0002	0.0002	0.6878	0.0001	-
2011 Graders	D	500 Construction and Mining Equipment	0.31	0.82	8.54E+00	2.87E-04	8.38E-05	8.06E-04	9.23E-07	3.01E-05	2.77E-05	0.0940545	7.558E-06	0	0.0014	0.0004	0.0039	0.0000	0.0001	0.0001	0.4586	0.0000	-
2011 Graders	D	750 Construction and Mining Equipment	0.68	1.78	3.92E+01	1.32E-03	3.87E-04	3.81E-03	4.34E-06	1.40E-04	1.29E-04	0.4316886	3.494E-05	0	0.0020	0.0006	0.0057	0.0000	0.0002	0.0002	0.6471	0.0001	-
2011 Hydro Power Units	D	15 Agricultural Equipment	0.02	0.04	1.02E-02	6.84E-07	1.30E-07	8.17E-07	1.74E-09	3.20E-08	2.95E-08	0.000112	1.177E-08	0	0.0024	0.0005	0.0029	0.0000	0.0001	0.0001	0.4009	0.0000	-
2011 Hydro Power Units	D	25 Agricultural Equipment	0.05	0.11	5.85E-02	2.64E-06	7.83E-07	5.01E-06	8.15E-09	2.39E-07	2.20E-07	0.0006422	7.063E-08	0	0.0019	0.0006	0.0036	0.0000	0.0002	0.0002	0.4571	0.0001	-
2011 Hydro Power Units	D	50 Agricultural Equipment	0.06	0.12	1.21E-01	1.62E-05	6.55E-06	1.37E-05	1.66E-08	1.49E-06	1.37E-06	0.001286	5.909E-07	0	0.0053	0.0021	0.0045	0.0000	0.0005	0.0004	0.4210	0.0002	-
2011 Hydro Power Units	D	120 Agricultural Equipment	0.01	0.01	2.17E-02	1.68E-06	4.90E-07	2.94E-06	2.77E-09	2.65E-07	2.44E-07	0.0002362	4.418E-08	0	0.0025	0.0007	0.0044	0.0000	0.0004	0.0004	0.3508	0.0001	-
2011 Hydro Power Units	G4	5 Agricultural Equipment	0.09	0.04	9.64E-03	2.08E-05	1.35E-06	6.05E-07	1.90E-09	1.80E-08	1.04E-08	5.51E-05	7.63E-08	7.76E-08	0.2003	0.0130	0.0058	0.0000	0.0002	0.0001	0.5302	0.0007	0.0007
2011 Hydro Power Units	G4	15 Agricultural Equipment	0.17	0.22	9.64E-02	2.77E-04	7.46E-06	5.51E-06	1.33E-08	3.91E-06	2.26E-06	4.67E-04	4.21E-07	5.49E-07	0.1676	0.0045	0.0033	0.0000	0.0024	0.0014	0.2828	0.0003	0.0003
2011 Hydro Power Units	G4	25 Agricultural Equipment	0.07	0.08	8.04E-02	2.38E-04	6.39E-06	4.13E-06	9.58E-09	3.17E-06	1.83E-06	3.78E-04	3.61E-07	3.00E-07	0.2268	0.0061	0.0039	0.0000	0.0030	0.0017	0.3605	0.0003	0.0003
2011 Hydro Power Units	G4	50 Agricultural Equipment	0.00	0.01	1.35E-02	1.09E-05	1.62E-07	2.49E-07	1.36E-09	8.59E-09	4.97E-09	1.12E-04	9.13E-09	1.93E-08	0.0712	0.0011	0.0016	0.0000	0.0001	0.0000	0.7350	0.0001	0.0001
2011 Hydro Power Units	G4	120 Agricultural Equipment	0.00	0.00	2.58E-03	5.08E-07	1.14E-08	2.64E-08	2.33E-10	1.87E-09	1.08E-09	2.41E-05	6.43E-10	2.25E-09	0.0111	0.0002	0.0006	0.0000	0.0000	0.0000	0.5259	0.0000	0.0000
2011 Off-Highway Tractors	D	120 Construction and Mining Equipment	0.01	0.02	7.43E-02	6.33E-06	2.02E-06	1.17E-05	9.46E-09	1.04E-06	9.58E-07	0.0008067	1.823E-07	0	0.0061	0.0020	0.0113	0.0000	0.0010	0.0009	0.7804	0.0002	-
2011 Off-Highway Tractors	D	175 Construction and Mining Equipment	6.86	21.07	1.26E+02	8.92E-03	2.35E-03	1.78E-02	1.54E-05	1.03E-03	9.48E-04	1.37262	0.0002125	0	0.0048	0.0013	0.0096	0.0000	0.0006	0.0005	0.7446	0.0001	-
2011 Off-Highway Tractors	D	250 Construction and Mining Equipment	6.48	19.91	1.18E+02	5.05E-03	1.78E-03	1.61E-02	1.46E-05	6.82E-04	6.27E-04	1.297424	0.0001607	0	0.0020	0.0007	0.0065	0.0000	0.0003	0.0003	0.5212	0.0001	-
2011 Off-Highway Tractors	D	750 Construction and Mining Equipment	113.91	350.04	9.07E+03	5.76E-01	1.24E-01	1.13E+00	9.99E-04	4.68E-02	4.30E-02	99.34492	0.0111821	0	0.0044	0.0009	0.0086	0.0000	0.0004	0.0003	0.7568	0.0001	-
2011 Off-Highway Tractors	D	1000 Construction and Mining Equipment	12.03	36.92	1.37E+03	9.45E-02	1.97E-02	2.02E-01	1.51E-04	7.01E-03	6.45E-03	15.01814	0.0017775	0	0.0051	0.0011	0.0110	0.0000	0.0004	0.0003	0.8136	0.0001	-
2011 Off-Highway Trucks	D	175 Construction and Mining Equipment	0.36	1.99	1.14E+01	7.56E-04	1.63E-04	1.19E-03	1.40E-06	7.30E-05	6.72E-05	0.1242817	1.471E-05	0	0.0043	0.0009	0.0068	0.0000	0.0004	0.0004	0.7141	0.0001	-
2011 Off-Highway Trucks	D	250 Construction and Mining Equipment	2.69	14.69	1.11E+02	3.00E-03	1.14E-03	1.09E-02	1.37E-05	3.78E-04	3.48E-04	1.221948	0.0001027	0	0.0016	0.0006	0.0059	0.0000	0.0002	0.0002	0.6656	0.0001	-
2011 Off-Highway Trucks	D	500 Construction and Mining Equipment	3.79	20.68	2.55E+02	7.27E-03	2.45E-03	2.20E-02	2.76E-05	8.11E-04	7.46E-04	2.814022	0.0002211	0	0.0014	0.0005	0.0043	0.0000	0.0002	0.0001	0.5442	0.0000	-
2011 Off-Highway Trucks	D	750 Construction and Mining Equipment	142.72	779.03	1.56E+04	4.44E-01	1.51E-01	1.39E+00	1.73E-03	5.04E-02	4.64E-02	171.9095	0.0136023	0	0.0015	0.0005	0.0048	0.0000	0.0002	0.0002	0.5885	0.0000	-
2011 Off-Highway Trucks	D	1000 Construction and Mining Equipment	66.94	365.00	1.03E+04	3.49E-01	1.11E-01	1.25E+00	1.15E-03	3.78E-02	3.48E-02	113.9095	0.0100445	0	0.0019	0.0006	0.0068	0.0000	0.0002	0.0002	0.6242	0.0001	-
2011 Other Agricultural Equipment	D	15 Agricultural Equipment	0.06	0.07	2.61E-02	1.75E-06	3.36E-07	2.12E-06	4.45E-09	1.00E-07	9.22E-08	0.0002861	3.031E-08	0	0.0031	0.0006	0.0038	0.0000	0.0002	0.0002	0.5112	0.0001	-
2011 Other Agricultural Equipment	D	25 Agricultural Equipment	0.17	0.21	1.33E-01	6.75E-06	2.25E-06	1.26E-05	1.85E-08	7.28E-07	6.70E-07	0.0014595	2.031E-07	0	0.0026	0.0009	0.0049	0.0000	0.0003	0.0003	0.5623	0.0001	-
2011 Other Agricultural Equipment	D	50 Agricultural Equipment	0.15	0.16	1.84E-01	1.96E-05	7.44E-06	2.00E-05	2.56E-08	1.86E-06	1.71E-06	0.0019826	6.711E-07	0	0.0050	0.0019	0.0052	0.0000	0.0005	0.0004	0.5112	0.0002	-
2011 Other Agricultural Equipment	D	120 Agricultural Equipment	0.50	0.52	1.23E+00	8.76E-05	2.35E-05	1.54E-04	1.57E-07	1.23E-05	1.13E-05	0.0133865	2.121E-06	0	0.0028	0.0007	0.0049	0.0000	0.0004	0.0004	0.4260	0.0001	-
2011 Other Agricultural Equipment	D	175 Agricultural Equipment	0.04	0.04	1.84E-01	1.08E-05	2.36E-06	2.06E-05	2.27E-08	1.04E-06	9.53E-07	0.0020196	2.128E-07	0	0.0028	0.0006	0.0054	0.0000	0.0003	0.0002	0.5294	0.0001	-
2011 Other Agricultural Equipment	D	250 Agricultural Equipment	0.04	0.04	2.65E-01	6.85E-06	2.21E-06	2.76E-05	3.29E-08	8.33E-07	7.66E-07	0.0029249	1.992E-07	0	0.0013	0.0004	0.0051	0.0000	0.0002	0.0001	0.5367	0.0000	-
2011 Other Agricultural Equipment	D	500 Agricultural Equipment	0.01	0.01	9.21E-02	2.66E-06	6.91E-07	8.72E-06	9.97E-09	2.70E-07	2.49E-07	0.0010153	6.237E-08	0	0.0010	0.0003	0.0033	0.0000	0.0001	0.0001	0.3859	0.0000	-
2011 Other Agricultural Equipment	G4	5 Agricultural Equipment	0.06	0.02	4.44E-03	9.92E-06	5.95E-07	2.67E-07	8.64E-10	8.16E-09	4.72E-09	2.50E-05	3.37E-08	3.88E-08	0.1652	0.0099	0.0044	0.0000	0.0001	0.0001	0.4166	0.0006	0.0006
2011 Other Agricultural Equipment	G4	15 Agricultural Equipment	0.05	0.02	1.16E-02	3.40E-05	9.88E-07	5.89E-07	1.56E-09	4.56E-07	2.63E-07	5.47E-05	5.59E-08	5.55E-08	0.2159	0.0063	0.0037	0.0000	0.0029	0.0017	0.3471	0.0004	0.0004
2011 Other Agricultural Equipment	G4	25 Agricultural Equipment	0.01	0.01	7.54E-03	2.26E-05	6.32E-07	3.44E-07	8.83E-10	2.90E-07	1.68E-07	3.48E-05	3.57E-08	2.20E-08	0.3376	0.0094	0.0051	0.0000	0.0043	0.0025	0.5207	0.0005	0.0003
2011 Other Agricultural Equipment	G4	50 Agricultural Equipment	0.02	0.01	9.38E-03	8.09E-06	2.85E-07	5.22E-07	9.33E-10	5.88E-09	3.40E-09	7.67E-05	1.61E-08	2.61E-08	0.0581	0.0020	0.0037	0.0000	0.0000	0.0000	0.5509	0.0001	0.0002
2011 Other Agricultural Equipment	G4	120 Agricultural Equipment	0.09	0.03	1.13E-01	4.46E-05	2.49E-06	9.67E-06	9.81E-09	7.87E-08	4.55E-08	1.02E-03	1.41E-07	2.67E-07	0.0231	0.0013	0.0050	0.0000	0.0000	0.0000	0.5243	0.0001	0.0001
2011 Other Agricultural Equipment	G4	175 Agricultural Equipment	0.01	0.00	2.50E-02	7.33E-06	3.23E-07	2.46E-06	2.27E-09	1.82E-08	1.05E-08	2.29E-04	1.83E-08	4.67E-08	0.0228	0.0010	0.0077	0.0000	0.0001	0.0000	0.7098	0.0001	0.0001
2011 Other Agricultural Equipment	G4	250 Agricultural Equipment	0.00	0.00	1.63E-02	4.93E-06	1.82E-07	1.43E-06	1.53E-09	1.22E-08	7.07E-09	1.49E-04	1.03E-08	2.31E-08	0.0288	0.0011	0.0083	0.0000	0.0001	0.0000	0.8734	0.0001	0.0001
2011 Other Construction Equipment	D	15 Construction and Mining Equipment	1.86	3.51	1.62E+00	1.08E-04	2.06E-05	1.29E-04	2.76E-07	5.05E-06	4.65E-06	0.0177261	1.862E-06	0	0.0041	0.0008	0.0049	0.0000	0.0002	0.0002	0.6732	0.0001	-
2011 Other Construction Equipment	D	25 Construction and Mining Equipment	0.31	0.59	3.57E-01	1.61E-05	4.77E-06	3.05E-05	4.98E-08	1.45E-06	1.33E-06	0.0039217	4.307E-07	0	0.0022	0.0006	0.0041	0.0000	0.0002	0.0002	0.5282	0.0001	-
2011 Other Construction Equipment	D	50 Construction and Mining Equipment	0.48	0.93	1.21E+00	1.32E-04	4.38E-05	1.28E-04	1.68E-07	1.14E-05	1.05E-05	0.0129949	3.95E-06	0	0.0057	0.0019	0.0055	0.0000	0.0005	0.0005	0.5593	0.0002	-
2011 Other Construction Equipment	D	120 Construction and Mining Equipment	0.80	1.53	5.68E+00	4.12E-04	9.35E-05	6.23E-04	7.27E-07	5.36E-05	4.93E-05	0.0619859	8.435E-06	0	0.0045	0.0010	0.0068	0.0000	0.0006	0.0005	0.6732	0.0001	-
2011 Other Construction Equipment	D	175 Construction and Mining Equipment	1.10	2.12	1.03E+01	6.23E-04	1.16E-04	9.84E-04	1.27E-06	5.49E-05	5.05E-05	0.1127062	1.046E-05	0	0.0034	0.0006	0.0053	0.0000	0.0003	0.0003	0.6081	0.0001	-
2011 Other Construction Equipment	D	500 Construction and Mining Equipment	2.55	4.92	5.66E+01	1.39E-03	3.93E-04	4.46E-03	6.13E-06	1.49E-04	1.37E-04	0.6244971	3.542E-05	0	0.0011	0.0003	0.0036	0.0000	0.0001	0.0001	0.5080	0.0000	-
2011 Other Construction Equipment	G4	175 Construction and Mining Equipment	0.32	0.32	1.78E+00	5.38E-04	8.48E-06	4.16E-05	1.62E-07	1.30E-06	7.50E-07	1.63E-02	4.79E-07	1.71E-06	0.0190	0.0003	0.0015	0.0000	0.0000	0.0000	0.5739	0.0000	0.0001
2011 Other General Industrial Equipmen	D	15 Industrial Equipment	0.70	2.74	7.99E-01	5.34E-05	9.07E-06	6.38E-05	1.36E-07	2.41E-06	2.22E-06	0.0087456	8.184E-07	0	0.0026	0.0004	0.0031	0.0000	0.0001	0.0001	0.4260	0.0000	-
2011 Other General Industrial Equipmen	D	25 Industrial Equipment	0.94	3.67	2.56E+00	1.16E-04	3.40E-05	2.15E-04	3.57E-07	8.48E-06	7.81E-06	0.0281288	3.063E-06	0	0.0025	0.0007	0.0047	0.0000	0.0002	0.0002	0.6134	0.0001	-
2011 Other General Industrial Equipmen	D	50 Industrial Equipment	1.16	4.54	4.62E+00	6.33E-04	2.39E-04	5.25E-04	6.38E-07	5.65E-05	5.19E-05	0.0493563	2.161E-05	0	0.0056	0.0021	0.0046	0.0000	0.0005	0.0005	0.4345	0.0002	-
2011 Other General Industrial Equipmen	D	120 Industrial Equipment	4.65	18.17	5.17E+01	4.08E-03	1.13E-03	6.60E-03	6.61E-06	6.30E-04	5.80E-04	0.5632427	0.0001018	0	0.0037	0.0010	0.0061	0.0000	0.0006	0.0005	0.5165	0.0001	-
2011 Other General Industrial Equipmen	D	175 Industrial Equipment	4.67	18.23	7.99E+01	5.20E-03	1.19E-03	9.03E-03	9.83E-06	5.42E-04	4.99E-04	0.8736711	0.0001075	0	0.0033	0.0007	0.0057	0.0000	0.0003	0.0003	0.5477	0.0001	-
2011 Other General Industrial Equipmen	D	250 Industrial Equipment	4.65	18.16	1.12E+02	2.96E-03	1.09E-03	1.17E-02	1.38E-05	3.81E-04	3.50E-04	1.229743	9.876E-05	0	0.0013	0.0005	0.0052	0.0000	0.0002	0.0002	0.5418	0.0000	-
2011 Other General Industrial Equipmen	D	500 Industrial Equipment	4.64	18.12	2.18E+02	6.16E-03	1.97E-03	2.01E-02	2.36E-05	6.90E-04	6.35E-04	2.402343	0.0001778	0	0.0014	0.0004	0.0044	0.0000	0.0002	0.0001	0.5303	0.0000	-
2011 Other General Industrial Equipmen	D	750 Industrial Equipment	1.16	4.53	8.97E+01	2.54E-03	8.18E-04	8.54E-03	9.94E-06	2.90E-04	2.67E-04	0.9888635	7.38E-05	0	0.0015	0.0005	0.0050	0.0000	0.0002	0.0002	0.5827	0.0000	-

2011	Other General Industrial Equipmen	D	1000	Industrial Equipment	0.71	2.75	6.99E+01	2.51E-03	7.56E-04	8.82E-03	7.74E-06	2.65E-04	2.44E-04	0.7696785	6.82E-05	0	0.0018	0.0005	0.0064	0.0000	0.0002	0.0002	0.5591	0.0000	-
2011	Other General Industrial Equipmen	G2	15	Industrial Equipment	0.42	0.43	1.70E-01	4.61E-04	7.64E-06	5.75E-06	3.63E-08	4.11E-07	3.78E-07	8.82E-04	4.75E-07	7.89E-07	0.1426	0.0024	0.0018	0.0000	0.0001	0.0001	0.2727	0.0001	0.0002
2011	Other General Industrial Equipmen	G4	15	Industrial Equipment	4.66	4.79	2.00E+00	5.80E-03	1.07E-04	7.63E-05	2.79E-07	5.19E-06	3.00E-06	9.79E-03	6.04E-06	9.38E-06	0.1614	0.0030	0.0021	0.0000	0.0001	0.0001	0.2727	0.0002	0.0003
2011	Other General Industrial Equipmen	G4	25	Industrial Equipment	1.53	1.80	1.74E+00	5.20E-03	9.31E-05	7.04E-05	2.10E-07	4.53E-06	2.62E-06	8.27E-03	5.26E-06	5.69E-06	0.2314	0.0041	0.0031	0.0000	0.0002	0.0001	0.3681	0.0002	0.0003
2011	Other General Industrial Equipmen	G4	50	Industrial Equipment	1.35	2.64	4.71E+00	5.25E-03	7.42E-05	1.45E-04	4.48E-07	2.83E-06	1.63E-06	3.69E-02	4.18E-06	9.71E-06	0.0796	0.0011	0.0022	0.0000	0.0000	0.0000	0.5595	0.0001	0.0001
2011	Other General Industrial Equipmen	G4	120	Industrial Equipment	0.44	0.87	3.49E+00	1.28E-03	2.93E-05	1.26E-04	3.05E-07	2.44E-06	1.41E-06	3.16E-02	1.65E-06	5.32E-06	0.0246	0.0006	0.0024	0.0000	0.0000	0.0000	0.6070	0.0000	0.0001
2011	Other General Industrial Equipmen	G4	175	Industrial Equipment	0.04	0.08	7.17E-01	2.30E-04	4.01E-06	2.73E-05	6.50E-08	5.21E-07	3.01E-07	6.54E-03	2.26E-07	7.95E-07	0.0313	0.0005	0.0037	0.0000	0.0001	0.0000	0.8916	0.0000	0.0001
2011	Other Material Handling Equipment	D	50	Industrial Equipment	0.03	0.12	1.71E-01	2.32E-05	8.80E-06	1.93E-05	2.36E-08	2.07E-06	1.91E-06	0.001827	7.941E-07	0	0.0077	0.0029	0.0064	0.0000	0.0007	0.0006	0.6061	0.0003	-
2011	Other Material Handling Equipment	D	120	Industrial Equipment	0.20	0.72	2.01E+00	1.58E-04	4.36E-05	2.56E-04	2.57E-07	2.44E-05	2.24E-05	0.021924	3.933E-06	0	0.0036	0.0010	0.0059	0.0000	0.0006	0.0005	0.5051	0.0001	-
2011	Other Material Handling Equipment	D	175	Industrial Equipment	0.21	0.78	4.32E+00	2.80E-04	6.38E-05	4.88E-04	5.32E-07	2.91E-05	2.68E-05	0.0472664	5.759E-06	0	0.0041	0.0009	0.0072	0.0000	0.0004	0.0004	0.6970	0.0001	-
2011	Other Material Handling Equipment	D	250	Industrial Equipment	0.51	1.84	1.21E+01	3.20E-04	1.17E-04	1.27E-03	1.50E-06	4.11E-05	3.78E-05	0.1335046	1.057E-05	0	0.0014	0.0005	0.0055	0.0000	0.0002	0.0002	0.5795	0.0000	-
2011	Other Material Handling Equipment	D	500	Industrial Equipment	0.10	0.34	2.99E+00	8.43E-05	2.66E-05	2.75E-04	3.24E-07	9.41E-06	8.66E-06	0.0329751	2.402E-06	0	0.0010	0.0003	0.0032	0.0000	0.0001	0.0001	0.3829	0.0000	-
2011	Other Material Handling Equipment	D	9999	Industrial Equipment	0.03	0.10	3.48E+00	1.24E-04	3.75E-05	4.37E-04	3.76E-07	1.31E-05	1.20E-05	0.0382715	3.384E-06	0	0.0002	0.0001	0.0008	0.0000	0.0000	0.0000	0.0741	0.0000	-
2011	Other Material Handling Equipment	G4	50	Industrial Equipment	0.02	0.02	4.85E-02	5.30E-05	1.57E-06	2.47E-06	4.60E-09	2.90E-08	1.68E-08	3.79E-04	8.87E-08	1.12E-07	0.1050	0.0031	0.0049	0.0000	0.0001	0.0000	0.7505	0.0002	0.0002
2011	Other Material Handling Equipment	G4	120	Industrial Equipment	0.84	0.89	2.47E+00	1.16E-03	5.82E-05	1.90E-04	2.11E-07	1.69E-06	9.77E-07	2.18E-02	3.29E-06	6.49E-06	0.0216	0.0011	0.0035	0.0000	0.0000	0.0000	0.4072	0.0001	0.0001
2011	Pavers	D	25	Construction and Mining Equipment	0.08	0.19	1.61E-01	7.81E-06	2.51E-06	1.48E-05	2.24E-08	8.13E-07	7.48E-07	0.0017646	2.261E-07	0	0.0033	0.0011	0.0063	0.0000	0.0003	0.0003	0.7457	0.0001	-
2011	Pavers	D	50	Construction and Mining Equipment	4.89	11.20	1.47E+01	2.11E-03	8.64E-04	1.72E-03	2.03E-06	1.92E-04	1.76E-04	0.1566559	7.794E-05	0	0.0075	0.0031	0.0061	0.0000	0.0007	0.0006	0.5593	0.0003	-
2011	Pavers	D	120	Construction and Mining Equipment	5.76	13.21	4.20E+01	3.41E-03	1.03E-03	6.10E-03	5.36E-06	5.43E-04	5.00E-04	0.4565735	9.277E-05	0	0.0043	0.0013	0.0077	0.0000	0.0007	0.0006	0.5761	0.0001	-
2011	Pavers	D	175	Construction and Mining Equipment	3.58	8.21	4.81E+01	3.24E-03	8.06E-04	6.27E-03	5.92E-06	3.58E-04	3.29E-04	0.5261536	7.269E-05	0	0.0045	0.0011	0.0087	0.0000	0.0005	0.0005	0.7324	0.0001	-
2011	Pavers	D	250	Construction and Mining Equipment	0.43	0.99	8.74E+00	3.28E-04	1.13E-04	1.09E-03	1.08E-06	4.35E-05	4.00E-05	0.0960635	1.023E-05	0	0.0027	0.0009	0.0088	0.0000	0.0004	0.0003	0.7768	0.0001	-
2011	Pavers	D	500	Construction and Mining Equipment	0.44	1.02	1.08E+01	5.41E-04	1.26E-04	1.21E-03	1.16E-06	4.80E-05	4.42E-05	0.1182704	1.139E-05	0	0.0021	0.0005	0.0048	0.0000	0.0002	0.0002	0.4661	0.0000	-
2011	Paving Equipment	D	25	Construction and Mining Equipment	0.15	0.33	1.90E-01	8.61E-06	2.54E-06	1.62E-05	2.65E-08	7.71E-07	7.09E-07	0.0020901	2.295E-07	0	0.0021	0.0006	0.0039	0.0000	0.0002	0.0002	0.5047	0.0001	-
2011	Paving Equipment	D	50	Construction and Mining Equipment	0.12	0.28	3.18E-01	4.53E-05	1.86E-05	3.71E-05	4.37E-08	4.13E-06	3.80E-06	0.0033841	1.678E-06	0	0.0064	0.0026	0.0052	0.0000	0.0006	0.0005	0.4781	0.0002	-
2011	Paving Equipment	D	120	Construction and Mining Equipment	1.78	4.08	1.02E+01	8.23E-04	2.49E-04	1.48E-03	1.30E-06	1.32E-04	1.21E-04	0.1110689	2.242E-05	0	0.0034	0.0010	0.0060	0.0000	0.0005	0.0005	0.4538	0.0001	-
2011	Paving Equipment	D	175	Construction and Mining Equipment	0.84	1.92	8.85E+00	5.90E-04	1.47E-04	1.15E-03	1.09E-06	6.52E-05	6.00E-05	0.0967719	1.325E-05	0	0.0035	0.0009	0.0069	0.0000	0.0004	0.0004	0.5768	0.0001	-
2011	Paving Equipment	D	250	Construction and Mining Equipment	0.24	0.54	3.00E+00	1.11E-04	3.84E-05	3.73E-04	3.72E-07	1.47E-05	1.36E-05	0.0330207	3.463E-06	0	0.0016	0.0006	0.0055	0.0000	0.0002	0.0002	0.4887	0.0001	-
2011	Paving Equipment	G4	5	Construction and Mining Equipment	45.70	21.30	4.17E+00	9.07E-03	5.80E-04	2.60E-04	8.22E-07	7.76E-06	4.49E-06	2.38E-02	3.28E-05	3.62E-05	0.1703	0.0109	0.0049	0.0000	0.0001	0.0001	0.4469	0.0006	0.0007
2011	Paving Equipment	G4	15	Construction and Mining Equipment	77.30	42.39	2.45E+01	7.06E-02	1.87E-03	1.33E-03	3.38E-06	9.93E-04	5.74E-04	1.18E-01	1.06E-04	1.19E-04	0.2221	0.0059	0.0042	0.0000	0.0031	0.0018	0.3724	0.0003	0.0004
2011	Paving Equipment	G4	25	Construction and Mining Equipment	1.72	0.94	1.23E+00	3.65E-03	9.55E-05	5.99E-05	1.47E-07	4.85E-05	2.81E-05	5.79E-03	5.40E-06	3.86E-06	0.3102	0.0081	0.0051	0.0000	0.0041	0.0024	0.4916	0.0005	0.0003
2011	Paving Equipment	G4	50	Construction and Mining Equipment	0.88	0.42	9.65E-01	7.86E-04	2.40E-05	4.21E-05	9.71E-08	6.12E-07	3.54E-07	7.99E-03	1.36E-06	2.01E-06	0.0742	0.0023	0.0040	0.0000	0.0001	0.0000	0.7540	0.0001	0.0002
2011	Paving Equipment	G4	120	Construction and Mining Equipment	0.23	0.11	4.01E-01	1.34E-04	6.83E-06	2.52E-05	3.51E-08	2.81E-07	1.63E-07	3.63E-03	3.86E-07	7.51E-07	0.0205	0.0010	0.0038	0.0000	0.0000	0.0000	0.5541	0.0001	0.0001
2011	Plate Compactors	D	15	Construction and Mining Equipment	1.81	2.97	5.85E-01	3.91E-05	7.46E-06	4.67E-05	9.96E-08	1.94E-06	1.78E-06	0.0063998	6.729E-07	0	0.0018	0.0003	0.0021	0.0000	0.0001	0.0001	0.2873	0.0000	-
2011	Plate Compactors	G2	15	Construction and Mining Equipment	1.65	0.93	1.88E-01	5.09E-04	1.18E-05	9.15E-06	4.01E-08	8.15E-06	7.50E-06	9.73E-04	7.35E-07	1.45E-06	0.0726	0.0017	0.0013	0.0000	0.0012	0.0011	0.1389	0.0001	0.0002
2011	Plate Compactors	G4	5	Construction and Mining Equipment	32.65	16.12	2.93E+00	6.31E-03	4.12E-04	1.85E-04	5.80E-07	5.47E-06	3.16E-06	1.68E-02	2.33E-05	2.65E-05	0.1567	0.0102	0.0046	0.0000	0.0001	0.0001	0.4166	0.0006	0.0007
2011	Plate Compactors	G4	15	Construction and Mining Equipment	34.63	19.56	8.43E+00	2.43E-02	6.44E-04	4.58E-04	1.16E-06	3.42E-04	1.97E-04	4.07E-02	3.64E-05	4.70E-05	0.1657	0.0044	0.0031	0.0000	0.0023	0.0013	0.2777	0.0002	0.0003
2011	Pressure Washers	D	15	Light Commercial Equipment	1.59	0.63	1.41E-01	1.05E-05	2.34E-06	1.59E-05	2.39E-08	9.21E-07	8.47E-07	0.0015372	2.109E-07	0	0.0022	0.0005	0.0034	0.0000	0.0002	0.0002	0.3258	0.0000	-
2011	Pressure Washers	D	25	Light Commercial Equipment	0.37	0.15	4.79E-02	2.80E-06	8.14E-07	4.82E-06	6.64E-09	2.85E-07	2.62E-07	0.0005236	7.345E-08	0	0.0015	0.0004	0.0026	0.0000	0.0002	0.0001	0.2857	0.0000	-
2011	Pressure Washers	D	50	Light Commercial Equipment	0.73	0.29	1.91E-01	1.53E-05	4.92E-06	1.94E-05	2.68E-08	1.47E-06	1.35E-06	0.0020754	4.44E-07	0	0.0021	0.0007	0.0027	0.0000	0.0002	0.0002	0.2857	0.0001	-
2011	Pressure Washers	D	120	Light Commercial Equipment	0.30	0.12	1.32E-01	8.70E-06	1.95E-06	1.44E-05	1.69E-08	1.03E-06	9.43E-07	0.001443	1.76E-07	0	0.0012	0.0003	0.0020	0.0000	0.0001	0.0001	0.2005	0.0000	-
2011	Pressure Washers	G4	5	Light Commercial Equipment	49.33	18.14	6.51E+00	1.43E-02	1.03E-03	3.00E-04	1.26E-06	1.24E-04	7.18E-05	0.0364973	5.8E-05	3.563E-05	0.3147	0.0226	0.0066	0.0000	0.0027	0.0016	0.8047	0.0013	0.0008
2011	Pressure Washers	G4	5	Light Commercial Equipment	38.76	9.59	3.96E+00	1.02E-02	7.55E-04	1.56E-04	6.66E-07	6.48E-05	3.74E-05	0.0192886	4.271E-05	1.868E-05	0.4273	0.0315	0.0065	0.0000	0.0027	0.0016	0.8047	0.0018	0.0008
2011	Pressure Washers	G4	15	Light Commercial Equipment	44.01	16.18	9.58E+00	2.81E-02	7.19E-04	4.26E-04	1.30E-06	2.38E-05	1.38E-05	0.0455836	4.065E-05	4.111E-05	0.2314	0.0059	0.0035	0.0000	0.0002	0.0001	0.3755	0.0003	0.0003
2011	Pressure Washers	G4	15	Light Commercial Equipment	34.58	8.55	5.33E+00	1.62E-02	5.12E-04	2.12E-04	6.87E-07	1.25E-05	7.21E-06	0.024092	2.893E-05	2.1E-05	0.2523	0.0080	0.0033	0.0000	0.0002	0.0001	0.3755	0.0005	0.0003
2011	Pressure Washers	G4	25	Light Commercial Equipment	8.27	3.04	4.70E+00	1.41E-02	3.27E-04	1.95E-04	5.58E-07	1.14E-05	6.62E-06	0.0220147	1.851E-05	1.242E-05	0.3705	0.0086	0.0051	0.0000	0.0003	0.0002	0.5794	0.0005	0.0003
2011	Pressure Washers	G4	25	Light Commercial Equipment	6.49	1.61	2.57E+00	7.87E-03	2.21E-04	9.36E-05	2.95E-07	5.98E-06	3.46E-06	0.0116293	1.249E-05	6.22E-06	0.3919	0.0110	0.0047	0.0000	0.0003	0.0002	0.5794	0.0006	0.0003
2011	Pressure Washers	G4	50	Light Commercial Equipment	0.81	0.25	6.49E-01	5.09E-04	1.63E-05	2.98E-05	6.57E-08	4.14E-07	2.39E-07	0.0054006	9.191E-07	1.317E-06	0.0803	0.0026	0.0047	0.0000	0.0001	0.0000	0.8514	0.0001	0.0002
2011	Pumps	D	15	Light Commercial Equipment	25.67	28.31	9.62E+00	7.15E-04	1.86E-04	1.11E-03	1.63E-06	7.56E-05	6.95E-05	0.1049743	1.675E-05	0	0.0034	0.0009	0.0052	0.0000	0.0004	0.0003	0.4945	0.0001	-
2011	Pumps	D	25	Light Commercial Equipment	7.67	8.45	7.53E+00	4.40E-04	1.61E-04	7.58E-04	1.04E-06	4.92E-05	4.52E-05	0.0823066	1.449E-05	0	0.0042	0.0015	0.0072	0.0000	0.0005	0.0004	0.7788	0.0001	-
2011	Pumps	D	50	Light Commercial Equipment	13.37	14.74	2.34E+01	2.31E-03	8.12E-04	2.46E-03	3.27E-06	2.14E-04	1.97E-04	0.2527936	7.327E-05	0	0.0063	0.0022	0.0067	0.0000	0.0006	0.0005	0.6861	0.0002	-
2011	Pumps	D	120	Light Commercial Equipment	26.21	28.90	1.03E+02	7.20E-03	1.75E-03	1.19E-02	1.32E-05	9.48E-04	8.72E-04	1.125313	0.0001582	0	0.0042	0.0010	0.0068	0.0000	0.0005	0.0005	0.6490	0.0001	-
2011	Pumps	D	175	Light Commercial Equipment	2.84	3.13	2.00E+01	1.15E-03	2.26E-04	2.04E-03	2.46E-06	1.03E-04	9.47E-05	0.2188865	2.04E-05	0	0.0042	0.0008	0.0075	0.0000	0.0004	0.0003	0.8000	0.0001	-
2011	Pumps	D	250	Light Commercial Equipment	2.04	2.25	2.05E+01	4.87E-04	1.49E-04	1.95E-03	2.55E-06	5.67E-05	5.22E-05	0.2266015	1.346E-05	0	0.0017	0.0005	0.0069	0.0000	0.0002	0.0002	0.8048	0.0000	-
2011	Pumps	D	500	Light Commercial Equipment	0.04	0.04	6.95E-01	1.79E-05	4.51E-06	5.92E-05	7.53E-08	1.80E-06	1.65E-06	0.007667	4.067E-07	0	0.0016	0.0004	0.0053	0.0000	0.0002	0.0001	0.6898	0.0000	-
2011	Pumps	D	750	Light Commercial Equipment	0.01	0.01	1.91E-01	4.94E-06	1.28E-06	1.68E-05	2.12E-08	5.03E-07	4.63E-07	0.0021125	1.159E-07	0	0.0018	0.0005	0.0061	0.0000	0.0002	0.0002	0.7603	0.0000	-
2011	Pumps	D	9999	Light Commercial Equipment	0.15	0.16	1.00E+01	3.27E-04	9.13E-05	1.16E-03	1.11E-06	3.29E-05	3.03E-05	0.1103329	8.242E-06	0	0.0004	0.0001	0.0014	0.0000	0.0000	0.0000	0.1354	0.0000	-
2011	Pumps	G2	2	Light Commercial Equipment	55.59	39.28	2.12E+00	4.05E-03	3.26E-04	1.02E-04	5.28E-07	4.51E-05	4.15E-05	1.28E-02	2.02E-05	2.96E-05	0.1031	0.0083	0.0026	0.0000	0.0011	0.0011	0.3266	0.0005	0.0008
2011	Pumps	G2	2	Light Commercial Equipment	43.68	20.75	1.29E+00	2.85E-03	3.12E-04	5.28E-05	2.79E-07	2.63E-05	2.42E-05	6.78E-03	1.94E-05	1.54E-05	0.1373	0.0150	0.0025	0.0000	0.0013	0.0012	0.3266	0.0009	0.0007
2011	Pumps	G2	15	Light Commercial Equipment	14.99	10.59	5.40E+00	1.47E-02	3.60E-04	2.63E-04	1.14E-06	2.32E-04	2.13E-04	2.77E-02	2.24E-05	2.70E-05	0.1851	0.0045	0.0033	0.0000	0.0029	0.0027	0.3484	0.0003	0.0003
2011	Pumps	G2	15	Light Commercial Equipment	11.78	5.60	2.97E+00	8.15E-03	3.31E-04	1.31E-04	6.02E-07	1.23E-04	1.13E-04	1.46E-02	2.06E-05	1.38E-05	0.1941	0.0079	0.0031	0.0000	0.0029	0.0027	0.3484	0.0005	0.0003
2011	Pumps	G2	25	Light Commercial Equipment	0.18	0.13	1.42E-01	3.95E-04	9.35E-06	6.31E-06	2.93E-08	5.97E-06	5.49E-06	7.12E-04	5.81E-07	4.71E-07	0.2468	0.0058	0.0039	0.0000	0.0037	0.0034	0.4442	0.0004	0.0003
2011	Pumps	G2	25	Light Commercial Equipment	0.14	0.07	7.49E-02	2.10E-04	5.27E-06	3.19E-06	1.53E-08	3.12E-06	2.87E-06	3.72E-04	3.27E-07	2.41E-07	0.2510	0.0063	0.0038	0.0000	0.0037	0.0034	0.4442	0.0004	0.0003
2011	Pumps	G4	5	Light Commercial Equipment	65.14	46.02	7.87E+00	1.64E-02	1.35E-03	5.23E-04	1.56E-06	4.07E-05	2.35E-05	4.51E-02	7.61E-05	7.53E-05	0.1424	0.0117	0.0045	0.0000	0.0004	0.0002	0.3920	0.0007	0.0007
2011	Pumps	G4	5	Light Commercial Equipment	51.18	24.31	4.73E+00	1.16E-02	9.35E-04	2.54E-04	8.23E-07	5.22E-05	3.02E-05	2.38E-02	5.29E-05	3.79E-05	0.1914	0.0154	0.0042	0.0000	0.0009	0.0005	0.3920	0.0009	0.0006
2011	Pumps	G4	15	Light Commercial Equipment	70.59	49.87	2.72E+01	7.86E-02	2.18E-03	1.49E-03	3.72E-06	1.09E-03	6.32E-04	1.30E-01	1.23E-04	1.36E-04	0.2100	0.0058	0.0040	0.0000	0.0029	0.0017	0.3484	0.0003	0.0004
2011	Pumps	G4	15	Light Commercial Equipment	55.46	26.35	1.48E+01	4.36E-02	1.32E-03	7.40E-04	1.96E-06	5.66E-04	3.27E-04	6.88E-02	7.49E-05	6.97E-05	0.2207	0.0067	0.0037	0.0000	0.0029	0.0017	0.3484	0.0004	0.0004
2011	Pumps	G4	25	Light Commercial Equipment	18.08	12.78	1.51E+01	4.46E-02	1.17E-03	7.53E-04	1.80E-06	5.95E-04	3.44E-04	7.09E-02	6.60E-05	5.03E-05	0.2791	0.0073	0.0047	0.0000	0.0037	0.0022	0.4442	0.0004	0.0003
2011	Pumps	G4	25	Light Commercial Equipment	14.21	6.75	8.04E+00	2.40E-02	6.52E-04	3.79E-04	9.50E-07	3.14E-04	1.81E-04	3.75E-02	3.69E-05	2.58E-05	0.2842	0.0077	0.0045	0.0000	0.0037	0.0022	0.4442	0.0004	0.0003
2011	Pumps	G4	50	Light Commercial Equipment	7.21	4.36	9.83E+00	8.49E-03	2.70E-04	4.55E-04	9.79E-07	6.17E-06	3.57E-06	8.05E-02	1.53E-05	2.14E-05	0.0779	0.0025	0.0042	0.0000	0.0001	0.0000	0.7388	0.0001	0.0002
2011	Pumps	G4	120	Light Commercial Equipment	9.14	5.53	3.36E+01	1.23E-02	6.46E-04	2.28E-03	2.93E-06	2.35E-05	1.36E-05	3.03E-01	3.65E-05	5.25E-05	0.0371	0.0019	0.0069	0.0000	0.0001	0.0000	0.9131	0.0001	0.0002
2011	Pumps	G4	175	Light Commercial Equipment	0.28	0.17	1.50E+00	4.49E-04	1.63E-05	1.18E-04	1.37E-07	1.09E-06	6.33E-07	1.37E-02	9.20E-07	2.11E-06	0.0308	0.0011	0.0081	0.0000	0.0001	0.0000	0.9429	0.0001	0.0001
2011	Rollers	D	15	Construction and Mining Equipment	3.39	6.46	1.86E+00	1.25E-04	2.38E-05	1.49E-04	3.18E-07	5.82E-06	5.35E-06	0.0204067	2.143E-06	0	0.0026	0.0005	0.0031	0.0000	0.0001	0.0001	0.4210	0.0000	-
2011	Rollers	D	25	Construction and Mining Equipment	1.42	2.70	1.64E+00	7.42E-05	2.19E-05	1.40E-04	2.29E-07	6.64E-06	6.11E-06	0.0180156	1.978E-06	0	0.0022	0.0006	0.0041	0.0000	0.0002	0.0002	0.5332	0.0001	-
2011	Rollers	D	50	Construction and Mining Equipment	4.41	8.49	1.03E+01	1.31E-03	5.05E-04	1.15E-03	1.42E-06	1.18E-04	1.09E-04	0.1101945	4.556E-05	0	0.0062	0.0024	0.0054	0.0000	0.0006	0.0005	0.5192	0.0002	-
2011	Rollers	D	120	Construction and Mining Equipment	23.68	45.58	1.23E+02	9.42E-03	2.58E-03	1.60E-02	1.58E-05	1.40E-03	1.29E-03	1.343043	0.0002326	0	0.0034	0.0009	0.0058	0.0000	0.0005	0.0005	0.4911	0.0001	-
2011	Rollers	D	175	Construction and Mining Equipment	9.52	18.33	9.05E+01	5.72E-03	1.29E-03	1.04E-02	1.11E-05	5.82E-04	5.35E-04	0.9901428	0.0001161	0	0.0036	0.0008	0.0065	0.0000	0.0004	0.0003	0.6174	0.0001	-

2011	Rollers	D	250	Construction and Mining Equipment	1.35	2.60	1.81E+01	5.56E-04	1.87E-04	1.97E-03	2.24E-06	7.11E-05	6.54E-05	0.1988187	1.687E-05	0	0.0017	0.0006	0.0061	0.0000	0.0002	0.0002	0.6118	0.0001	-
2011	Rollers	D	500	Construction and Mining Equipment	0.95	1.82	1.81E+01	6.56E-04	1.70E-04	1.77E-03	1.96E-06	6.50E-05	5.98E-05	0.1995377	1.53E-05	0	0.0014	0.0004	0.0039	0.0000	0.0001	0.0001	0.4378	0.0000	-
2011	Rollers	G4	5	Construction and Mining Equipment	3.64	0.83	2.24E-01	5.40E-04	2.68E-05	1.20E-05	4.19E-08	3.96E-07	2.29E-07	1.21E-03	1.51E-06	1.54E-06	0.2609	0.0129	0.0058	0.0000	0.0002	0.0001	0.5870	0.0007	0.0007
2011	Rollers	G4	15	Construction and Mining Equipment	5.88	5.00	2.72E+00	7.81E-03	2.03E-04	1.50E-04	3.77E-07	1.11E-04	6.40E-05	1.32E-02	1.15E-05	1.38E-05	0.2083	0.0054	0.0040	0.0000	0.0030	0.0017	0.3522	0.0003	0.0004
2011	Rollers	G4	25	Construction and Mining Equipment	3.97	3.38	4.00E+00	1.18E-02	3.06E-04	1.98E-04	4.77E-07	1.58E-04	9.12E-05	1.88E-02	1.73E-05	1.33E-05	0.2800	0.0073	0.0047	0.0000	0.0037	0.0022	0.4461	0.0004	0.0003
2011	Rollers	G4	50	Construction and Mining Equipment	0.23	0.39	1.03E+00	1.30E-03	4.87E-05	6.15E-05	9.33E-08	5.88E-07	3.40E-07	7.68E-03	2.75E-06	2.47E-06	0.1338	0.0050	0.0063	0.0000	0.0001	0.0000	0.7923	0.0003	0.0003
2011	Rollers	G4	120	Construction and Mining Equipment	0.43	0.73	3.38E+00	2.06E-03	1.23E-04	3.14E-04	2.79E-07	2.24E-06	1.30E-06	2.89E-02	6.94E-06	7.61E-06	0.0470	0.0028	0.0072	0.0000	0.0001	0.0000	0.6616	0.0002	0.0002
2011	Rough Terrain Forklifts	D	50	Construction and Mining Equipment	0.62	1.93	3.05E+00	3.92E-04	1.41E-04	3.39E-04	4.23E-07	3.43E-05	3.16E-05	0.0327068	1.274E-05	0	0.0081	0.0029	0.0070	0.0000	0.0007	0.0007	0.6766	0.0003	-
2011	Rough Terrain Forklifts	D	120	Construction and Mining Equipment	29.80	92.61	2.65E+02	2.04E-02	5.24E-03	3.19E-02	3.39E-05	2.96E-03	2.73E-03	2.88912	0.0004727	0	0.0037	0.0009	0.0057	0.0000	0.0005	0.0005	0.5199	0.0001	-
2011	Rough Terrain Forklifts	D	175	Construction and Mining Equipment	3.82	11.86	6.76E+01	4.32E-03	9.20E-04	7.17E-03	8.33E-06	4.24E-04	3.90E-04	0.7402147	8.303E-05	0	0.0042	0.0009	0.0069	0.0000	0.0004	0.0004	0.7131	0.0001	-
2011	Rough Terrain Forklifts	D	250	Construction and Mining Equipment	0.21	0.66	5.12E+00	1.33E-04	4.72E-05	5.08E-04	6.36E-07	1.68E-05	1.54E-05	0.0564823	4.259E-06	0	0.0016	0.0006	0.0061	0.0000	0.0002	0.0002	0.6826	0.0001	-
2011	Rough Terrain Forklifts	D	500	Construction and Mining Equipment	0.14	0.44	5.06E+00	1.38E-04	4.31E-05	4.40E-04	5.48E-07	1.54E-05	1.42E-05	0.0558209	3.887E-06	0	0.0013	0.0004	0.0040	0.0000	0.0001	0.0001	0.5127	0.0000	-
2011	Rough Terrain Forklifts	G4	50	Construction and Mining Equipment	0.05	0.05	1.70E-01	1.89E-04	7.03E-06	1.01E-05	1.60E-08	1.01E-07	5.84E-08	1.32E-03	3.97E-07	3.66E-07	0.1470	0.0055	0.0078	0.0000	0.0001	0.0000	1.0227	0.0003	0.0003
2011	Rough Terrain Forklifts	G4	120	Construction and Mining Equipment	0.65	0.73	3.85E+00	2.03E-03	1.20E-04	3.54E-04	3.23E-07	2.59E-06	1.50E-06	3.35E-02	6.75E-06	8.09E-06	0.0462	0.0027	0.0081	0.0000	0.0001	0.0000	0.7620	0.0002	0.0002
2011	Rough Terrain Forklifts	G4	175	Construction and Mining Equipment	0.02	0.03	2.11E-01	6.77E-05	3.30E-06	2.34E-05	1.90E-08	1.53E-07	8.82E-08	1.91E-03	1.86E-07	3.98E-07	0.0300	0.0015	0.0104	0.0000	0.0001	0.0000	0.8489	0.0001	0.0002
2011	Rubber Tired Dozers	D	175	Construction and Mining Equipment	0.06	0.25	1.49E+00	1.08E-04	2.90E-05	2.15E-04	1.83E-07	1.26E-05	1.16E-05	0.0162526	2.616E-06	0	0.0049	0.0013	0.0098	0.0000	0.0006	0.0005	0.7392	0.0001	-
2011	Rubber Tired Dozers	D	250	Construction and Mining Equipment	1.37	6.16	5.14E+01	2.27E-03	8.14E-04	7.14E-03	6.35E-06	3.08E-04	2.83E-04	0.5642917	7.345E-05	0	0.0029	0.0011	0.0093	0.0000	0.0004	0.0004	0.7333	0.0001	-
2011	Rubber Tired Dozers	D	500	Construction and Mining Equipment	2.11	9.47	1.15E+02	7.63E-03	1.64E-03	1.44E-02	1.23E-05	6.06E-04	5.58E-04	1.25346	0.0001479	0	0.0032	0.0007	0.0061	0.0000	0.0003	0.0002	0.5293	0.0001	-
2011	Rubber Tired Dozers	D	750	Construction and Mining Equipment	30.18	135.27	2.46E+03	1.64E-01	3.54E-02	3.14E-01	2.71E-04	1.31E-02	1.21E-02	26.94831	0.0031922	0	0.0032	0.0007	0.0062	0.0000	0.0003	0.0002	0.5312	0.0001	-
2011	Rubber Tired Dozers	D	1000	Construction and Mining Equipment	2.04	9.14	2.47E+02	1.78E-02	3.70E-03	3.71E-02	2.72E-05	1.31E-03	1.20E-03	2.703891	0.0003342	0	0.0039	0.0008	0.0081	0.0000	0.0003	0.0003	0.5914	0.0001	-
2011	Rubber Tired Loaders	D	25	Construction and Mining Equipment	0.08	0.21	1.59E-01	7.17E-06	2.11E-06	1.34E-05	2.21E-08	5.93E-07	5.45E-07	0.0017417	1.904E-07	0	0.0028	0.0008	0.0052	0.0000	0.0002	0.0002	0.6766	0.0001	-
2011	Rubber Tired Loaders	D	50	Construction and Mining Equipment	1.52	4.08	5.94E+00	7.93E-04	2.95E-04	6.70E-04	8.21E-07	6.96E-05	6.40E-05	0.0634759	2.658E-05	0	0.0078	0.0029	0.0066	0.0000	0.0007	0.0006	0.6224	0.0003	-
2011	Rubber Tired Loaders	D	120	Construction and Mining Equipment	41.45	110.90	3.00E+02	2.34E-02	6.27E-03	3.79E-02	3.83E-05	3.48E-03	3.20E-03	3.263923	0.0005659	0	0.0035	0.0009	0.0057	0.0000	0.0005	0.0005	0.4905	0.0001	-
2011	Rubber Tired Loaders	D	175	Construction and Mining Equipment	23.36	62.51	3.03E+02	1.97E-02	4.38E-03	3.39E-02	3.74E-05	1.99E-03	1.83E-03	3.319784	0.0003953	0	0.0036	0.0008	0.0062	0.0000	0.0004	0.0003	0.6070	0.0001	-
2011	Rubber Tired Loaders	D	250	Construction and Mining Equipment	23.24	62.16	4.20E+02	1.24E-02	4.37E-03	4.43E-02	5.21E-05	1.59E-03	1.46E-03	4.626256	0.0003947	0	0.0016	0.0006	0.0057	0.0000	0.0002	0.0002	0.5954	0.0001	-
2011	Rubber Tired Loaders	D	500	Construction and Mining Equipment	9.67	25.87	2.78E+02	9.22E-03	2.66E-03	2.60E-02	3.01E-05	9.62E-04	8.85E-04	3.062948	0.0002404	0	0.0014	0.0004	0.0040	0.0000	0.0001	0.0001	0.4736	0.0000	-
2011	Rubber Tired Loaders	D	750	Construction and Mining Equipment	27.46	73.45	1.62E+03	5.36E-02	1.56E-02	1.55E-01	1.79E-04	5.69E-03	5.23E-03	17.81526	0.0014091	0	0.0019	0.0006	0.0056	0.0000	0.0002	0.0002	0.6468	0.0001	-
2011	Rubber Tired Loaders	D	1000	Construction and Mining Equipment	2.95	7.88	2.13E+02	8.18E-03	2.28E-03	2.65E-02	2.35E-05	7.99E-04	7.35E-04	2.338816	0.000206	0	0.0021	0.0006	0.0067	0.0000	0.0002	0.0002	0.5933	0.0001	-
2011	Rubber Tired Loaders	G4	50	Construction and Mining Equipment	0.11	0.16	3.91E-01	4.60E-04	1.72E-05	2.34E-05	3.62E-08	2.28E-07	1.32E-07	2.98E-03	9.73E-07	9.72E-07	0.1153	0.0043	0.0059	0.0000	0.0001	0.0000	0.7460	0.0002	0.0002
2011	Rubber Tired Loaders	G4	120	Construction and Mining Equipment	0.76	1.06	4.08E+00	2.30E-03	1.37E-04	3.79E-04	3.40E-07	2.73E-06	1.58E-06	3.52E-02	7.71E-06	9.98E-06	0.0361	0.0021	0.0060	0.0000	0.0000	0.0000	0.5532	0.0001	0.0002
2011	Scrapers	D	120	Construction and Mining Equipment	0.22	0.67	2.89E+00	2.37E-04	7.09E-05	4.15E-04	3.68E-07	3.77E-05	3.47E-05	0.0313844	6.398E-06	0	0.0059	0.0018	0.0103	0.0000	0.0009	0.0009	0.7818	0.0002	-
2011	Scrapers	D	175	Construction and Mining Equipment	2.00	6.12	4.15E+01	2.82E-03	7.01E-04	5.32E-03	5.10E-06	3.10E-04	2.86E-04	0.4530316	6.327E-05	0	0.0053	0.0013	0.0099	0.0000	0.0006	0.0005	0.8454	0.0001	-
2011	Scrapers	D	250	Construction and Mining Equipment	1.95	5.97	5.68E+01	2.08E-03	7.41E-04	6.96E-03	7.03E-06	2.77E-04	2.54E-04	0.6247174	6.684E-05	0	0.0028	0.0010	0.0093	0.0000	0.0004	0.0003	0.8371	0.0001	-
2011	Scrapers	D	500	Construction and Mining Equipment	5.37	16.43	2.40E+02	1.14E-02	2.86E-03	2.64E-02	2.59E-05	1.05E-03	9.67E-04	2.638954	0.0002576	0	0.0028	0.0007	0.0064	0.0000	0.0003	0.0002	0.6423	0.0001	-
2011	Scrapers	D	750	Construction and Mining Equipment	35.62	109.02	2.75E+03	1.31E-01	3.29E-02	3.09E-01	3.04E-04	1.22E-02	1.12E-02	30.24102	0.0029678	0	0.0032	0.0008	0.0076	0.0000	0.0003	0.0003	0.7397	0.0001	-
2011	Signal Boards	D	15	Construction and Mining Equipment	15.78	32.45	9.14E+00	6.11E-04	1.16E-04	7.29E-04	1.56E-06	2.76E-05	2.54E-05	0.1000245	1.051E-05	0	0.0025	0.0005	0.0030	0.0000	0.0001	0.0001	0.4109	0.0000	-
2011	Signal Boards	D	50	Construction and Mining Equipment	0.08	0.12	1.93E-01	2.14E-05	8.01E-06	2.09E-05	2.69E-08	1.99E-06	1.83E-06	0.0020815	7.223E-07	0	0.0074	0.0028	0.0073	0.0000	0.0007	0.0006	0.7232	0.0003	-
2011	Signal Boards	D	120	Construction and Mining Equipment	1.28	1.88	6.92E+00	5.01E-04	1.32E-04	8.41E-04	8.85E-07	7.14E-05	6.56E-05	0.075457	1.188E-05	0	0.0044	0.0012	0.0074	0.0000	0.0006	0.0006	0.6678	0.0001	-
2011	Signal Boards	D	175	Construction and Mining Equipment	0.80	1.17	8.23E+00	4.90E-04	1.05E-04	8.93E-04	1.01E-06	4.75E-05	4.37E-05	0.0901562	9.469E-06	0	0.0048	0.0010	0.0087	0.0000	0.0005	0.0004	0.8823	0.0001	-
2011	Signal Boards	D	250	Construction and Mining Equipment	0.17	0.25	2.85E+00	7.08E-05	2.32E-05	2.88E-04	3.54E-07	8.70E-06	8.01E-06	0.0314639	2.094E-06	0	0.0023	0.0008	0.0093	0.0000	0.0003	0.0003	1.0203	0.0001	-
2011	Signal Boards	G4	5	Construction and Mining Equipment	0.10	0.04	1.20E-02	2.77E-05	1.53E-06	6.86E-07	2.29E-09	2.16E-08	1.25E-08	6.64E-05	8.65E-08	7.85E-08	0.3001	0.0166	0.0074	0.0000	0.0002	0.0001	0.7195	0.0009	0.0009
2011	Signal Boards	G4	15	Construction and Mining Equipment	0.74	0.57	3.40E-01	9.77E-04	2.53E-05	1.87E-05	4.71E-08	1.39E-05	8.01E-06	1.65E-03	1.43E-06	1.65E-06	0.2269	0.0059	0.0043	0.0000	0.0032	0.0019	0.3838	0.0003	0.0004
2011	Skid Steer Loaders	D	25	Construction and Mining Equipment	10.76	24.61	1.55E+01	8.17E-04	2.81E-04	1.50E-03	2.15E-06	8.94E-05	8.22E-05	0.169614	2.534E-05	0	0.0027	0.0009	0.0049	0.0000	0.0003	0.0003	0.5513	0.0001	-
2011	Skid Steer Loaders	D	50	Construction and Mining Equipment	97.62	227.47	2.68E+02	2.75E-02	7.86E-03	2.76E-02	3.75E-05	2.26E-03	2.08E-03	2.899774	0.0007093	0	0.0048	0.0014	0.0049	0.0000	0.0004	0.0004	0.5099	0.0001	-
2011	Skid Steer Loaders	D	120	Construction and Mining Equipment	51.15	119.19	2.33E+02	1.67E-02	3.26E-03	2.29E-02	2.99E-05	1.95E-03	1.80E-03	2.546029	0.000294	0	0.0023	0.0005	0.0032	0.0000	0.0003	0.0003	0.3560	0.0000	-
2011	Skid Steer Loaders	G4	15	Construction and Mining Equipment	0.35	0.30	2.41E-01	6.90E-04	1.82E-05	1.35E-05	3.33E-08	9.79E-06	5.66E-06	1.17E-03	1.03E-06	1.03E-06	0.3031	0.0080	0.0059	0.0000	0.0043	0.0025	0.5125	0.0005	0.0005
2011	Skid Steer Loaders	G4	25	Construction and Mining Equipment	23.22	20.31	2.25E+01	6.65E-02	1.75E-03	1.13E-03	2.68E-06	8.88E-04	5.13E-04	1.06E-01	9.87E-05	7.75E-05	0.2619	0.0069	0.0044	0.0000	0.0035	0.0020	0.4173	0.0004	0.0003
2011	Skid Steer Loaders	G4	50	Construction and Mining Equipment	3.10	2.64	5.06E+00	4.00E-03	7.54E-05	1.26E-04	5.14E-07	3.24E-06	1.87E-06	4.23E-02	4.27E-06	8.77E-06	0.0607	0.0011	0.0019	0.0000	0.0000	0.0000	0.6410	0.0001	0.0001
2011	Skid Steer Loaders	G4	120	Construction and Mining Equipment	1.86	1.58	6.78E+00	1.72E-03	5.55E-05	1.84E-04	6.04E-07	4.84E-06	2.80E-06	6.25E-02	3.14E-06	7.72E-06	0.0182	0.0006	0.0019	0.0000	0.0001	0.0000	0.6602	0.0000	0.0001
2011	Sprayers	D	25	Agricultural Equipment	0.09	0.03	1.47E-02	9.34E-07	3.57E-07	1.53E-06	2.03E-09	1.07E-07	9.81E-08	0.0001601	3.222E-08	0	0.0028	0.0011	0.0046	0.0000	0.0003	0.0003	0.4761	0.0001	-
2011	Sprayers	D	50	Agricultural Equipment	0.02	0.00	5.16E-03	4.21E-07	1.44E-07	5.37E-07	7.25E-10	4.17E-08	3.84E-08	5.606E-05	1.298E-08	0	0.0034	0.0012	0.0043	0.0000	0.0003	0.0003	0.4510	0.0001	-
2011	Sprayers	D	120	Agricultural Equipment	0.19	0.05	1.24E-01	8.21E-06	2.00E-06	1.45E-05	1.59E-08	9.99E-07	9.19E-07	0.0013563	1.808E-07	0	0.0029	0.0007	0.0051	0.0000	0.0003	0.0003	0.4751	0.0001	-
2011	Sprayers	D	175	Agricultural Equipment	0.08	0.02	8.63E-02	4.68E-06	9.20E-07	8.96E-06	1.07E-08	3.91E-07	3.59E-07	0.0009473	8.305E-08	0	0.0027	0.0005	0.0051	0.0000	0.0002	0.0002	0.5405	0.0000	-
2011	Sprayers	D	250	Agricultural Equipment	0.05	0.01	8.80E-02	2.07E-06	5.98E-07	8.47E-06	1.09E-08	2.25E-07	2.07E-07	0.000971	5.398E-08	0	0.0013	0.0004	0.0054	0.0000	0.0001	0.0001	0.6214	0.0000	-
2011	Sprayers	D	500	Agricultural Equipment	0.01	0.00	1.64E-02	3.97E-07	1.01E-07	1.46E-06	1.78E-09	4.03E-08	3.71E-08	0.0001809	9.148E-09	0	0.0007	0.0002	0.0027	0.0000	0.0001	0.0001	0.3395	0.0000	-
2011	Sprayers	G4	5	Agricultural Equipment	1.44	0.39	6.48E-02	1.44E-04	8.74E-06	3.92E-06	1.26E-08	1.19E-07	6.90E-08	3.66E-04	4.94E-07	5.94E-07	0.1492	0.0090	0.0041	0.0000	0.0001	0.0001	0.3787	0.0005	0.0006
2011	Sprayers	G4	15	Agricultural Equipment	0.45	0.12	4.55E-02	1.40E-04	5.08E-06	1.90E-06	5.68E-09	1.56E-06	9.02E-07	1.99E-04	2.87E-07	2.34E-07	0.1554	0.0056	0.0021	0.0000	0.0017	0.0010	0.2209	0.0003	0.0003
2011	Sprayers	G4	25	Agricultural Equipment	1.16	0.31	2.85E-01	8.83E-04	2.94E-05	1.07E-05	3.17E-08	9.80E-06	5.66E-06	1.25E-03	1.66E-06	9.13E-07	0.2271	0.0076	0.0028	0.0000	0.0025	0.0015	0.3219	0.0004	0.0002
2011	Sprayers	G4	50	Agricultural Equipment	0.10	0.02	3.78E-02	3.22E-05	1.16E-06	2.21E-06	3.77E-09	2.38E-08	1.37E-08	3.10E-04	6.55E-08	1.07E-07	0.0591	0.0021	0.0041	0.0000	0.0000	0.0000	0.5699	0.0001	0.0002
2011	Sprayers	G4	120	Agricultural Equipment	0.17	0.04	1.19E-01	4.69E-05	2.64E-06	1.08E-05	1.03E-08	8.25E-08	4.77E-08	1.07E-03	1.50E-07	3.08E-07	0.0213	0.0012	0.0049	0.0000	0.0000	0.0000	0.4838	0.0001	0.0001
2011	Sprayers	G4	175	Agricultural Equipment	0.04	0.01	5.26E-02	1.51E-05	7.03E-07	5.52E-06	4.78E-09	3.83E-08	2.21E-08	4.81E-04	3.98E-08	1.07E-07	0.0209	0.0010	0.0076	0.0000	0.0001	0.0000	0.6643	0.0001	0.0001
2011	Surfacing Equipment	D	50	Construction and Mining Equipment	0.11	0.14	9.13E-02	1.03E-05	3.85E-06	9.95E-06	1.27E-08	9.41E-07	8.66E-07	0.0009817	3.471E-07	0	0.0030	0.0011	0.0029	0.0000	0.0003	0.0002	0.2819	0.0001	-
2011	Surfacing Equipment	D	120	Construction and Mining Equipment	0.02	0.03	8.13E-02	5.97E-06	1.56E-06	1.02E-05	1.04E-08	8.33E-07	7.66E-07	0.0008875	1.407E-07	0	0.0036	0.0009	0.0061	0.0000	0.0005	0.0005	0.5309	0.0001	-
2011	Surfacing Equipment	D	175	Construction and Mining Equipment	0.02	0.02	8.17E-02	4.97E-06	1.06E-06	9.08E-06	1.01E-08	4.75E-07	4.37E-07	0.0008953	9.559E-08	0	0.0027	0.0006	0.0050	0.0000	0.0003	0.0002	0.4897	0.0001	-
2011	Surfacing Equipment	D	250	Construction and Mining Equipment	0.03	0.04	2.56E-01	7.68E-06	2.44E-06	2.69E-05	3.17E-08	9.42E-07	8.67E-07	0.0028155	2.205E-07	0	0.0015	0.0005	0.0052	0.0000	0.0002	0.0002	0.5390	0.0000	-
2011	Surfacing Equipment	D	500	Construction and Mining Equipment	0.28	0.35	3.49E+00	1.26E-04	3.01E-05	3.33E-04	3.78E-07	1.18E-05	1.08E-05	0.0384825	2.72E-06	0	0.0014	0.0003	0.0038	0.0000	0.0001	0.0001	0.4420	0.0000	-
2011	Surfacing Equipment	D	750	Construction and Mining Equipment	6.81	8.46	1.33E+02	4.78E-03	1.17E-03	1.30E-02	1.47E-05	4.55E-04	4.18E-04	1.466252	0.0001057	0	0.0015	0.0004	0.0041	0.0000	0.0001	0.0001	0.4623	0.0000	-
2011	Surfacing Equipment	G4	5	Construction and Mining Equipment	8.39	4.60	9.23E-01	1.95E-03	1.33E-04	5.96E-05	1.84E-07	1.74E-06	1.01E-06	5.34E-03	7.52E-06	8.07E-06	0.1699	0.0116	0.0052	0.0000	0.0002	0.0001	0.4639	0.0007	0.0007
2011	Surfacing Equipment	G4	15	Construction and Mining Equipment	24.93	34.38	1.32E+01	3.78E-02	1.03E-03	7.64E-04	1.82E-06	5.35E-04	3.09E-04	6.38E-02	5.84E-05	8.05E-05	0.1467	0.0040	0.0030	0.0000	0.0021	0.0012	0.2474	0.0002	0.0003
2011	Surfacing Equipment	G4	25	Construction and Mining Equipment	0.34	0.47	4.41E-01	1.30E-03	3.55E-05	2.30E-05	5.26E-08	1.74E-05	1.01E-05	2.07E-03	2.00E-06	1.67E-06	0.2218	0.0060	0.0039	0.0000	0.0030	0.0017	0.3526	0.0003	0.0003
2011	Swathers	D	120	Agricultural Equipment	2.19	0.66	1.62E+00	1.08E-04	2.66E-05	1.91E-04	2.08E-07	1.33E-05	1.22E-05	0.0177598	2.398E-06	0	0.0027	0.0007	0.0048	0.0000	0.0003	0.0003	0.4479	0.0001	-
2011	Swathers	D	175	Agricultural Equipment	0.02	0.01	2.78E-02	1.52E-06	3.01E-07	2.90E-06	3.43E-09	1.28E-07	1.18E-07	0.0003051	2.712E-08	0	0.0029	0.0006	0.0056	0.0000	0.0002	0.0002	0.5906	0.0001	-
2011	Swathers	G4	120	Agricultural Equipment	0.54	0.14	6.16E-01	2.46E-04	1.39E-05	5.60E-05	5.31E-08	4.26E-07	2.46E-07	5.50E-03	7.88E-07	1.38E-06	0.0292	0.0016	0.0066	0.0000	0.0001	0.0000	0.6511	0.0001	0.0002
2011	Swathers	G4	175	Agricultural Equipment	0.41	0.11	6.57E-01	1.90E-04	8.86E-06	6.92E-05	5.97E-08	4.79E-07	2.77E-07	6.01E-03	5.01E-07	1.37E-06	0.0201	0.0009	0.0073	0.0000	0.0001	0.0000	0.6365	0.0001	0.0001
2011	Sweepers/Scrubbers	D	15	Industrial Equipment	0.27	0.48	2.59E-01	1.73E-05	2.94E-06	2.07E-05	4.41E-08	7.83E-07	7.20E-07	0.0028368	2.654E-07	0	0.0049	0.0008	0.0058	0.0000	0.0002	0.0002	0.7952	0.0001	-

2011	Sweepers/Scrubbers	D	25	Industrial Equipment	0.27	0.48	4.25E-01	1.92E-05	5.64E-06	3.58E-05	5.91E-08	1.58E-06	1.45E-06	0.0046604	5.093E-07	0	0.0032	0.0009	0.0060	0.0000	0.0003	0.0002	0.7838	0.0001	-
2011	Sweepers/Scrubbers	D	50	Industrial Equipment	5.20	17.39	2.55E+01	3.07E-03	1.06E-03	2.75E-03	3.54E-06	2.67E-04	2.46E-04	0.2741475	9.541E-05	0	0.0071	0.0024	0.0063	0.0000	0.0006	0.0006	0.6305	0.0002	-
2011	Sweepers/Scrubbers	D	120	Industrial Equipment	8.60	28.78	9.89E+01	7.45E-03	1.81E-03	1.11E-02	1.27E-05	1.05E-03	9.65E-04	1.078742	0.0001629	0	0.0043	0.0010	0.0064	0.0000	0.0006	0.0006	0.6248	0.0001	-
2011	Sweepers/Scrubbers	D	175	Industrial Equipment	3.96	13.25	8.40E+01	5.26E-03	1.05E-03	8.28E-03	1.04E-05	4.94E-04	4.55E-04	0.919912	9.477E-05	0	0.0045	0.0009	0.0071	0.0000	0.0004	0.0004	0.7935	0.0001	-
2011	Sweepers/Scrubbers	D	250	Industrial Equipment	0.63	2.12	1.56E+01	3.64E-04	1.27E-04	1.43E-03	1.93E-06	4.42E-05	4.06E-05	0.1716181	1.143E-05	0	0.0014	0.0005	0.0054	0.0000	0.0002	0.0002	0.6475	0.0000	-
2011	Sweepers/Scrubbers	G4	15	Industrial Equipment	2.35	1.74	9.54E-01	2.77E-03	4.86E-05	3.48E-05	1.33E-07	2.37E-06	1.37E-06	4.68E-03	2.75E-06	3.85E-06	0.2120	0.0037	0.0027	0.0000	0.0002	0.0001	0.3585	0.0002	0.0003
2011	Sweepers/Scrubbers	G4	25	Industrial Equipment	2.29	1.70	2.16E+00	6.44E-03	1.11E-04	8.26E-05	2.60E-07	5.36E-06	3.10E-06	1.03E-02	6.25E-06	6.02E-06	0.3038	0.0052	0.0039	0.0000	0.0003	0.0001	0.4840	0.0003	0.0003
2011	Sweepers/Scrubbers	G4	50	Industrial Equipment	3.93	5.56	1.46E+01	1.33E-02	1.87E-04	3.74E-04	1.45E-06	9.13E-06	5.28E-06	1.19E-01	1.06E-05	2.30E-05	0.0956	0.0013	0.0027	0.0000	0.0001	0.0000	0.8583	0.0001	0.0002
2011	Sweepers/Scrubbers	G4	120	Industrial Equipment	3.28	4.64	2.08E+01	5.85E-03	1.26E-04	6.40E-04	1.85E-06	1.48E-05	8.56E-06	1.91E-01	7.09E-06	2.82E-05	0.0210	0.0005	0.0023	0.0000	0.0001	0.0000	0.6870	0.0000	0.0001
2011	Sweepers/Scrubbers	G4	175	Industrial Equipment	0.02	0.03	2.43E-01	7.50E-05	1.00E-06	7.87E-06	2.21E-08	1.77E-07	1.03E-07	2.23E-03	5.66E-08	2.45E-07	0.0318	0.0004	0.0033	0.0000	0.0001	0.0000	0.9432	0.0000	0.0001
2011	Tampers/Rammers	G2	15	Construction and Mining Equipment	19.28	9.62	1.94E+00	5.24E-03	1.22E-04	9.43E-05	4.13E-07	8.40E-05	7.73E-05	1.00E-02	7.57E-06	1.49E-05	0.0726	0.0017	0.0013	0.0000	0.0012	0.0011	0.1389	0.0001	0.0002
2011	Tampers/Rammers	G4	15	Construction and Mining Equipment	0.89	0.44	2.17E-01	6.27E-04	1.70E-05	1.16E-05	2.97E-08	8.72E-06	5.04E-06	1.04E-03	9.62E-07	1.13E-06	0.1883	0.0051	0.0035	0.0000	0.0026	0.0015	0.3124	0.0003	0.0003
2011	Tillers	D	15	Agricultural Equipment	0.00	0.00	4.54E-04	3.03E-08	5.32E-09	3.74E-08	7.73E-11	1.90E-09	1.75E-09	4.969E-06	4.802E-10	0	0.0028	0.0005	0.0034	0.0000	0.0002	0.0002	0.4561	0.0000	-
2011	Tillers	D	250	Agricultural Equipment	0.00	0.00	1.47E-03	3.57E-08	1.06E-08	1.45E-07	1.83E-10	4.01E-09	3.69E-09	1.625E-05	9.606E-10	0	0.0021	0.0006	0.0085	0.0000	0.0002	0.0002	0.9577	0.0001	-
2011	Tillers	D	500	Agricultural Equipment	0.00	0.00	7.88E-03	2.01E-07	5.17E-08	7.16E-07	8.53E-10	2.04E-08	1.88E-08	8.695E-05	4.664E-09	0	0.0020	0.0005	0.0070	0.0000	0.0002	0.0002	0.8541	0.0000	-
2011	Tillers	G4	15	Agricultural Equipment	48.92	9.53	5.00E+00	1.52E-02	4.96E-04	2.00E-04	6.39E-07	1.16E-05	6.72E-06	2.24E-02	2.81E-05	2.14E-05	0.2132	0.0069	0.0028	0.0000	0.0002	0.0001	0.3137	0.0004	0.0003
2011	Tractors/Loaders/Backhoes	D	25	Construction and Mining Equipment	1.58	4.08	2.95E+00	1.37E-04	4.18E-05	2.61E-04	4.11E-07	1.35E-05	1.24E-05	0.0323588	3.774E-06	0	0.0027	0.0008	0.0051	0.0000	0.0003	0.0002	0.6340	0.0001	-
2011	Tractors/Loaders/Backhoes	D	50	Construction and Mining Equipment	9.45	25.06	3.54E+01	4.30E-03	1.43E-03	3.85E-03	4.91E-06	3.64E-04	3.35E-04	0.3799444	0.0001286	0	0.0069	0.0023	0.0061	0.0000	0.0006	0.0005	0.6064	0.0002	-
2011	Tractors/Loaders/Backhoes	D	120	Construction and Mining Equipment	126.34	335.23	7.94E+02	6.02E-02	1.41E-02	8.89E-02	1.02E-04	8.08E-03	7.44E-03	8.662518	0.0012701	0	0.0030	0.0007	0.0044	0.0000	0.0004	0.0004	0.4307	0.0001	-
2011	Tractors/Loaders/Backhoes	D	175	Construction and Mining Equipment	9.43	25.02	1.16E+02	7.34E-03	1.43E-03	1.13E-02	1.43E-05	6.68E-04	6.15E-04	1.2671	0.0001292	0	0.0034	0.0007	0.0051	0.0000	0.0003	0.0003	0.5788	0.0001	-
2011	Tractors/Loaders/Backhoes	D	250	Construction and Mining Equipment	3.05	8.09	6.29E+01	1.57E-03	5.42E-04	5.73E-03	7.81E-06	1.89E-04	1.74E-04	0.6941698	4.886E-05	0	0.0015	0.0005	0.0057	0.0000	0.0002	0.0002	0.6863	0.0000	-
2011	Tractors/Loaders/Backhoes	D	500	Construction and Mining Equipment	4.92	13.06	2.04E+02	5.25E-03	1.63E-03	1.62E-02	2.53E-05	5.73E-04	5.27E-04	2.249738	0.0001474	0	0.0016	0.0005	0.0050	0.0000	0.0002	0.0002	0.6891	0.0000	-
2011	Tractors/Loaders/Backhoes	D	750	Construction and Mining Equipment	137.28	364.24	8.53E+03	2.20E-01	6.90E-02	7.03E-01	1.06E-03	2.44E-02	2.25E-02	94.1216	0.006223	0	0.0016	0.0005	0.0051	0.0000	0.0002	0.0002	0.6891	0.0000	-
2011	Tractors/Loaders/Backhoes	G4	120	Construction and Mining Equipment	0.40	0.96	2.82E+00	1.47E-03	6.59E-05	1.60E-04	2.38E-07	1.91E-06	1.10E-06	2.47E-02	3.70E-06	5.70E-06	0.0257	0.0011	0.0028	0.0000	0.0000	0.0000	0.4303	0.0001	0.0001
2011	Trenchers	D	15	Construction and Mining Equipment	0.42	0.71	2.75E-01	1.84E-05	3.51E-06	2.20E-05	4.69E-08	8.31E-07	7.65E-07	0.0030127	3.164E-07	0	0.0034	0.0007	0.0041	0.0000	0.0002	0.0001	0.5638	0.0001	-
2011	Trenchers	D	25	Construction and Mining Equipment	0.44	0.75	1.12E+00	5.08E-05	1.50E-05	9.49E-05	1.57E-07	4.20E-06	3.86E-06	0.0123409	1.349E-06	0	0.0054	0.0016	0.0101	0.0000	0.0004	0.0004	1.3155	0.0001	-
2011	Trenchers	D	50	Construction and Mining Equipment	16.86	29.27	4.52E+01	6.24E-03	2.56E-03	5.23E-03	6.22E-06	5.70E-04	5.25E-04	0.4813532	0.0002309	0	0.0085	0.0035	0.0071	0.0000	0.0008	0.0007	0.6578	0.0003	-
2011	Trenchers	D	120	Construction and Mining Equipment	22.84	39.67	1.18E+02	9.48E-03	2.84E-03	1.72E-02	1.51E-05	1.49E-03	1.37E-03	1.285994	0.0002566	0	0.0040	0.0012	0.0072	0.0000	0.0006	0.0006	0.5403	0.0001	-
2011	Trenchers	D	175	Construction and Mining Equipment	2.50	4.34	2.85E+01	1.90E-03	4.68E-04	3.72E-03	3.51E-06	2.08E-04	1.91E-04	0.3120962	4.225E-05	0	0.0050	0.0012	0.0098	0.0000	0.0005	0.0005	0.8215	0.0001	-
2011	Trenchers	D	250	Construction and Mining Equipment	0.22	0.39	3.94E+00	1.50E-04	5.08E-05	4.92E-04	4.88E-07	1.98E-05	1.82E-05	0.0433581	4.586E-06	0	0.0031	0.0010	0.0101	0.0000	0.0004	0.0004	0.8908	0.0001	-
2011	Trenchers	D	500	Construction and Mining Equipment	0.29	0.50	7.04E+00	3.72E-04	8.14E-05	7.94E-04	7.58E-07	3.15E-05	2.90E-05	0.0772077	7.341E-06	0	0.0030	0.0007	0.0064	0.0000	0.0003	0.0002	0.6221	0.0001	-
2011	Trenchers	D	750	Construction and Mining Equipment	1.36	2.36	6.32E+01	3.34E-03	7.38E-04	7.27E-03	6.97E-06	2.86E-04	2.63E-04	0.693112	6.657E-05	0	0.0038	0.0008	0.0082	0.0000	0.0003	0.0003	0.7818	0.0001	-
2011	Trenchers	G4	15	Construction and Mining Equipment	6.82	8.11	5.23E+00	1.50E-02	4.01E-04	2.96E-04	7.23E-07	2.12E-04	1.23E-04	2.53E-02	2.26E-05	2.47E-05	0.2468	0.0066	0.0049	0.0000	0.0035	0.0020	0.4166	0.0004	0.0004
2011	Trenchers	G4	25	Construction and Mining Equipment	5.28	6.29	8.77E+00	2.59E-02	6.88E-04	4.45E-04	1.05E-06	3.46E-04	2.00E-04	4.12E-02	3.89E-05	2.73E-05	0.3300	0.0088	0.0057	0.0000	0.0044	0.0025	0.5249	0.0005	0.0003
2011	Trenchers	G4	50	Construction and Mining Equipment	2.07	2.28	5.03E+00	5.56E-03	2.06E-04	2.98E-04	4.75E-07	2.99E-06	1.73E-06	3.90E-02	1.17E-05	1.31E-05	0.0974	0.0036	0.0052	0.0000	0.0001	0.0000	0.6838	0.0002	0.0002
2011	Trenchers	G4	120	Construction and Mining Equipment	0.69	0.76	3.23E+00	1.69E-03	9.96E-05	2.98E-04	2.72E-07	2.18E-06	1.26E-06	2.82E-02	5.63E-06	7.49E-06	0.0372	0.0022	0.0066	0.0000	0.0000	0.0000	0.6198	0.0001	0.0002
2011	Welders	D	15	Light Commercial Equipment	11.60	20.42	5.80E+00	4.31E-04	1.12E-04	6.67E-04	9.85E-07	4.56E-05	4.19E-05	0.0633142	1.01E-05	0	0.0028	0.0007	0.0044	0.0000	0.0003	0.0003	0.4135	0.0001	-
2011	Welders	D	25	Light Commercial Equipment	10.21	17.97	9.27E+00	5.41E-04	1.98E-04	9.34E-04	1.29E-06	6.05E-05	5.57E-05	0.1013188	1.784E-05	0	0.0024	0.0009	0.0042	0.0000	0.0003	0.0002	0.4510	0.0001	-
2011	Welders	D	50	Light Commercial Equipment	31.43	55.31	6.67E+01	7.59E-03	2.81E-03	7.21E-03	9.27E-06	6.94E-04	6.38E-04	0.7171901	0.0002534	0	0.0055	0.0020	0.0052	0.0000	0.0005	0.0005	0.5187	0.0002	-
2011	Welders	D	120	Light Commercial Equipment	24.41	42.95	7.77E+01	5.69E-03	1.47E-03	9.35E-03	9.94E-06	8.09E-04	7.44E-04	0.8475779	0.0001324	0	0.0022	0.0006	0.0036	0.0000	0.0003	0.0003	0.3289	0.0001	-
2011	Welders	D	175	Light Commercial Equipment	0.12	0.21	9.53E-01	5.75E-05	1.21E-05	1.02E-04	1.17E-07	5.55E-06	5.11E-06	0.0104385	1.09E-06	0	0.0031	0.0006	0.0055	0.0000	0.0003	0.0003	0.5606	0.0001	-
2011	Welders	D	250	Light Commercial Equipment	0.03	0.05	2.55E-01	6.34E-06	2.09E-06	2.53E-05	3.17E-08	7.79E-07	7.16E-07	0.0028129	1.883E-07	0	0.0011	0.0004	0.0043	0.0000	0.0001	0.0001	0.4758	0.0000	-
2011	Welders	D	500	Light Commercial Equipment	0.07	0.12	8.97E-01	2.42E-05	6.59E-06	7.92E-05	9.72E-08	2.55E-06	2.34E-06	0.0098986	5.949E-07	0	0.0008	0.0002	0.0027	0.0000	0.0001	0.0001	0.3349	0.0000	-
2011	Welders	G4	15	Light Commercial Equipment	46.02	26.19	1.51E+01	4.51E-02	1.44E-03	7.40E-04	1.98E-06	5.66E-04	3.27E-04	0.0695618	8.15E-05	6.942E-05	0.2296	0.0073	0.0038	0.0000	0.0029	0.0017	0.3541	0.0004	0.0004
2011	Welders	G4	25	Light Commercial Equipment	166.36	94.68	8.39E+01	2.51E-01	7.05E-03	3.95E-03	9.85E-06	3.23E-03	1.87E-03	0.3885957	0.0003986	0.0003093	0.2119	0.0060	0.0033	0.0000	0.0027	0.0016	0.3283	0.0003	0.0003
2011	Welders	G4	50	Light Commercial Equipment	14.33	8.15	1.99E+01	1.77E-02	6.20E-04	1.04E-03	1.96E-06	1.24E-05	7.16E-06	0.1615759	3.507E-05	4.511E-05	0.0869	0.0030	0.0051	0.0000	0.0001	0.0000	0.7926	0.0002	0.0002
2011	Welders	G4	120	Light Commercial Equipment	14.62	8.32	2.84E+01	1.13E-02	6.37E-04	2.25E-03	2.45E-06	1.96E-05	1.14E-05	0.2536454	3.604E-05	6.505E-05	0.0227	0.0013	0.0045	0.0000	0.0000	0.0000	0.5080	0.0001	0.0001
2011	Welders	G4	175	Light Commercial Equipment	1.01	0.57	3.46E+00	1.02E-03	4.30E-05	3.19E-04	3.14E-07	2.52E-06	1.45E-06	0.0315807	2.43E-06	6.582E-06	0.0203	0.0009	0.0064	0.0000	0.0001	0.0000	0.6291	0.0000	0.0001

Title : LAX Study - 2011
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/11/17 10:36:16
Scen Year: 2011 -- All model years in the range 2007 to 2011 selected
Season : Annual
Area : Los Angeles County Average
I/M Stat : Enhanced Interim (2005) -- Using I/M schedule for area 59 Los Angeles (SC)
Emissions: Tons Per Day

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	HHDT-CAT	HHDT-DSL	HHDT-TOT
Vehicles	104	6266	6369
VMT/1000	24	2065	2089
VMT	24000	2065000	2089000
Trips	4737	31707	36444
Methane Emissions			
Run Exh	0	0.03	0.03
Idle Exh	0	0	0
Start Ex	0	0	0
Total Ex	0	0.03	0.04
Diurnal	0	0	0
Hot Soak	0	0	0
Running	0	0	0
Resting	0	0	0
Total	0	0.03	0.04
lbs/mi	-	0.000	0.000
Carbon Monoxide Emissions			
Run Exh	0.66	3.06	3.72
Idle Exh	0	0.48	0.48
Start Ex	0.18	0	0.18
Total Ex	0.84	3.55	4.39
lbs/mi	0.070	0.003	0.004
Oxides of Nitrogen Emissions			
Run Exh	0.09	9.65	9.74
Idle Exh	0	1.44	1.44
Start Ex	0.01	0	0.01
Total Ex	0.1	11.09	11.19
lbs/mi	0.008	0.011	0.011
Carbon Dioxide Emissions (000)			
Run Exh	0.02	4.26	4.28
Idle Exh	0	0.08	0.08
Start Ex	0	0	0
Total Ex	0.02	4.34	4.36
lbs/mi	1.667	4.203	4.174
PM2.5 Emissions			
Run Exh	0	0.18	0.18
Idle Exh	0	0	0
Start Ex	0	0	0
Total Ex	0	0.18	0.18

lbs/mi

	CO	VOC	NOx	SOX	PM10	PM2.5	CO2	CH4
HHDT-DSL	0.003438	0.000688	0.010741	0.000039	0.001145	0.000351	4.203390	0.000029

Paved Road Fugitive Dust from "Improvement of Specific Emission Factors (BACM Project No. 1) Final Report," MRI, 1996.
Used High ADT, average conditions:

Paved Road Dust, g/mi		lb/mi
PM10	0.37000000	0.00082
PM2.5	0.06247594	0.00014

	CO	VOC	NOx	SOX	PM10	PM2.5	CO2	CH4
2007+	0.00344	0.00069	0.01074	0.00004	0.00115	0.00035	4.20339	0.00003
Regular	0.01152	0.00299	0.03319	0.00004	0.00254	0.00164	4.25160	0.00014
Composite	0.00344	0.00069	0.01074	0.00004	0.00115	0.00035	4.20339	0.00003

2007+	1.00
Regular	-

TireWear	0	0.02	0.02
BrakeWr	0	0.03	0.03
Total	0	0.22	0.22
lbs/mi	-	0.000	0.000
Lead	0	0	0
SOx	0	0.04	0.04
lbs/mi	-	0.000	0.000

Fuel Consumption (000 gallons)

Gasoline	1.98	0	1.98
Diesel	0	390.63	390.63

Reactive Organic Gas Emissions

Run Exh	0.01	0.62	0.63
Idle Exh	0	0.09	0.09
Start Ex	0	0	0
Total Ex	0.01	0.71	0.72
Diurnal	0	0	0
Hot Soak	0	0	0
Running	0	0	0
Resting	0	0	0
Total	0.01	0.71	0.72
lbs/mi	0.001	0.001	0.001

PM10 Emissions

Run Exh	0	0.19	0.19
Idle Exh	0	0	0
Start Ex	0	0	0
Total Ex	0	0.19	0.19
TireWear	0	0.08	0.08
BrakeWr	0	0.06	0.06
Total	0	0.34	0.34
lbs/mi	-	0.000	0.000

Title : LAX Study - 2011 Standard
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/11/17 10:45:12
Scen Year: 2011 -- All model years in the range 1967 to 2011 selected
Season : Annual
Area : Los Angeles County Average
I/M Stat : Enhanced Interim (2005) -- Using I/M schedule for area 59 Los Angeles (SC)
Emissions: Tons Per Day

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	HHDT-NCAT	HHDT-CAT	HHDT-DSL	HHDT-TOT
Vehicles	303	1951	25401	27655
VMT/1000	4	197	5151	5352
VMT	4000	197000	5151000	5352000
Trips	13853	89079	128543	231475
Reactive Organic Gas Emissions				
Run Exh	0.08	0.71	7.13	7.92
Idle Exh	0	0	0.56	0.56
Start Ex	0.26	0.38	0	0.64
Total Ex	0.34	1.09	7.69	9.13
Diurnal	0	0	0	0
Hot Soak	0.01	0	0	0.01
Running	0.09	0.06	0	0.15
Resting	0	0	0	0
Total	0.44	1.15	7.69	9.29
lbs/mi	0.220	0.012	0.003	0.003
Carbon Monoxide Emissions				
Run Exh	2.95	10.68	27.42	41.04
Idle Exh	0	0	2.24	2.24
Start Ex	4.29	5.49	0	9.78
Total Ex	7.24	16.17	29.66	53.07
lbs/mi	3.620	0.164	0.012	0.020
Oxides of Nitrogen Emissions				
Run Exh	0.1	2.49	80.18	82.77
Idle Exh	0	0	5.29	5.29
Start Ex	0.07	0.76	0	0.83
Total Ex	0.17	3.25	85.47	88.89
lbs/mi	0.085	0.033	0.033	0.033
Carbon Dioxide Emissions (000)				
Run Exh	0	0.15	10.63	10.78
Idle Exh	0	0	0.31	0.31
Start Ex	0	0	0	0.01
Total Ex	0.01	0.15	10.95	11.1
lbs/mi	5.000	1.523	4.252	4.148
PM10 Emissions				
Run Exh	0	0	4.01	4.01
Idle Exh	0	0	0.08	0.08
Start Ex	0	0	0	0
Total Ex	0	0	4.08	4.09

lbs/mi

	CO	VOC	NOx	SOX	PM10	PM2.5	CO2	CH4
HHDT-DSL	0.011516	0.002986	0.033186	0.000039	0.002544	0.001640	4.251602	0.000140

Paved Road Fugitive Dust from "Improvement of Specific Emission Factors (BACM Project No. 1) Final Report," MRI, 1996.
Used High ADT, average conditions:

Paved Road Dust, g/mi		lb/mi
PM10	0.37000000	0.00082
PM2.5	0.06247594	0.00014

TireWear	0	0	0.2	0.21
BrakeWr	0	0.01	0.16	0.17
	---	---	---	---
Total	0	0.01	4.45	4.46
lbs/mi	-	0.000	0.002	0.002
Lead	0	0	0	0
SOx	0	0	0.1	0.11
lbs/mi	-	-	0.000	0.000
Fuel Consumption (000 gallons)				
Gasoline	1.91	18.48	0	20.39
Diesel	0	0	985.09	985.09

Methane Emissions				
Run Exh	0	0.05	0.33	0.38
Idle Exh	0	0	0.03	0.03
Start Ex	0.02	0.02	0	0.04
	---	---	---	---
Total Ex	0.02	0.07	0.36	0.45
Diurnal	0	0	0	0
Hot Soak	0	0	0	0
Running	0	0	0	0
Resting	0	0	0	0
	---	---	---	---
Total	0.02	0.07	0.36	0.45
lbs/mi	0.010	0.001	0.000	0.000
PM2.5 Emissions				
Run Exh	0	0	3.68	3.69
Idle Exh	0	0	0.07	0.07
Start Ex	0	0	0	0
	---	---	---	---
Total Ex	0	0	3.76	3.76
TireWear	0	0	0.05	0.05
BrakeWr	0	0	0.07	0.07
	---	---	---	---
Total	0	0.01	3.87	3.88
lbs/mi	-	0.000	0.002	0.001

Title : LAX Study - Workers 2011
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/11/17 11:13:41
Scen Year: 2011 -- All model years in the range 1967 to 2011 selected
Season : Annual
Area : Los Angeles County Average
I/M Stat : Enhanced Interim (2005) -- Using I/M schedule for area 59 Los Angeles (SC)
Emissions: Tons Per Day

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	LDA-NCAT	LDA-CAT	LDA-DSL	LDA-TOT
Vehicles	26704	3481560	6903	3515160
VMT/1000	428	116671	146	117245
VMT	428000	116671000	146000	117245000
Trips	105387	21947400	36225	22089000
Reactive Organic Gas Emissions				
Run Exh	3.06	6.64	0.03	9.73
Idle Exh	0	0	0	0
Start Ex	0.59	9.05	0	9.64
Total Ex	3.64	15.7	0.03	19.37
Diurnal	0.17	2.42	0	2.6
Hot Soak	0.34	3.92	0	4.26
Running	2	10.3	0	12.3
Resting	0.13	1.65	0	1.78
Total	6.28	33.98	0.03	40.3
lbs/mi	0.029	0.001	0.000	0.001
Carbon Monoxide Emissions				
Run Exh	35.45	246.6	0.15	282.19
Idle Exh	0	0	0	0
Start Ex	3.43	107.36	0	110.78
Total Ex	38.87	353.96	0.15	392.97
lbs/mi	0.182	0.006	0.002	0.007
Oxides of Nitrogen Emissions				
Run Exh	2	22.34	0.23	24.58
Idle Exh	0	0	0	0
Start Ex	0.16	7.15	0	7.31
Total Ex	2.17	29.49	0.23	31.89
lbs/mi	0.010	0.001	0.003	0.001
Carbon Dioxide Emissions (000)				
Run Exh	0.26	51.67	0.06	51.99
Idle Exh	0	0	0	0
Start Ex	0.02	1.75	0	1.77
Total Ex	0.28	53.42	0.06	53.76
lbs/mi	1.308	0.916	0.822	0.917
PM10 Emissions				
Run Exh	0.02	1.56	0.02	1.6
Idle Exh	0	0	0	0
Start Ex	0	0.14	0	0.14
Total Ex	0.02	1.7	0.02	1.74

lbs/mi

	CO	VOC	NOx	SOX	PM10	PM2.5	CO2	CH4
LDA-CAT	0.006068	0.000582	0.000506	0.000009	0.000890	0.000181	53.420000	0.000061

Paved Road Fugitive Dust from "Improvement of Specific Emission Factors (BACM Project No. 1) Final Report," MRI, 1996.
Used High ADT, average conditions:

Paved Road Dust, g/mi		lb/mi
PM10	0.37000000	0.00082
PM2.5	0.06247594	0.00014

TireWear	0	1.03	0	1.03
BrakeWr	0.01	1.61	0	1.62
Total	0.03	4.34	0.03	4.39
lbs/mi	0.000	0.000	0.000	0.000
Lead	0	0	0	0
SOx	0	0.52	0	0.52
lbs/mi	-	0.000	-	0.000
Fuel Consumption (000 gallons)				
Gasoline	36.25	5531.99	0	5568.24
Diesel	0	0	5.26	5.26
PM2.5 Emissions				
Run Exh	0.01	1.44	0.02	1.48
Idle Exh	0	0	0	0
Start Ex	0	0.13	0	0.13
Total Ex	0.01	1.57	0.02	1.61
TireWear	0	0.26	0	0.26
BrakeWr	0	0.69	0	0.69
Total	0.02	2.52	0.02	2.56
lbs/mi	0.000	0.000	0.000	0.000
Methane Emissions				
Run Exh	0.17	3.06	0	3.23
Idle Exh	0	0	0	0
Start Ex	0.04	0.51	0	0.55
Total Ex	0.21	3.57	0	3.78
Diurnal	0	0	0	0
Hot Soak	0	0	0	0
Running	0	0	0	0
Resting	0	0	0	0
Total	0.21	3.57	0	3.78
lbs/mi	0.001	0.000	-	0.000

7/24/2008

CALIFORNIA EMISSION INVENTORY AND REPORTING SYSTEM (CEIDARS)

-- Particulate Matter (PM) Speciation Profiles --

SUMMARY OF OVERALL SIZE FRACTIONS AND REFERENCE DOCUMENTATION

PMPROF	PMPROFN	NEW FORMAT	SOURCE_REF	PM10 to PM2.5	FRACTION < PM 10	FRACTION < PM 2.5	FRACTION < PM 1	FRACTION > PM 10	PM_SIZE_CMT	PM_SIZE_CMT	PM_CHEM_CMT	PM_CHEM_CMMT1
114	STAT. I.C. ENGINE-DIST/DIESEL	N	KVB	0.99	0.976	0.967	0.96	0.024	ASSUMED TO BE SAME AS		ASSUMED TO	ASSUMED TO BE SAME AS #112.
115	STAT. I.C. ENGINE-GASOLINE	N	KVB	1.00	0.994	0.992	0.988	0.006	ASSUMED TO BE SAME AS		ASSUMED TO	ASSUMED TO BE SAME AS #123.
116	STAT. I.C. ENGINE-DIESEL	N	KVB	0.98	0.96	0.937	0.92	0.04	BASED ON TESTS ON I.C		BASED ON TI	BASED ON TESTS ON I.C. RECIPROCATING ENGINE (2400 HP TURBOCHARGED ELECTRIC POWER GENERATION), BURNING NO. 2 DIESEL FUEL.
117	VEHICULAR SOURCES-GASOLINE			1.00	0.994	0.992	0.988	0.006				
118	VEHICULAR SOURCES-DIESEL			0.98	0.96	0.937	0.92	0.04	ASSUMED SAME AS #116.		ASSUMED SA	ASSUMED SAME AS #116.
119	MARINE VESSELS-LIQUID FUEL	N	KVB	0.98	0.96	0.937	0.92	0.04	ASSUMED SAME AS #116.		ASSUMED SA	ASSUMED SAME AS #116.
120	GASEOUS MATERIAL COMBUSTION	N	KVB	1.00	1	1	1	0	BASED ON KVB ENGINEER		BASED ON K'	BASED ON KVB ENGINEERING ESTIMATE.
121	RESIDENTIAL-NATURAL GAS	N	KVB	1.00	1	1	1	0	KVB LITERATURE RESEAR		KVB LITERA'	KVB LITERATURE RESEARCH - BASED ON INDUSTRIAL BOILER PROFILE (KVB #49).
123	STAT. I.C.ENGINE-GAS	N	KVB	1.00	0.994	0.992	0.988	0.006	CLIMAX RECIPROCATING		CLIMAX REC	CLIMAX RECIPROCATING ENGINE FUELED BY A DIGESTER GAS FROM A WASTE DISPOSAL OPERATION.
125	PETROLEUM HEATERS-GAS	N	KVB	0.98	0.95	0.93	0.91	0.05	BASED ON TESTS DONE O		BASED ON TI	BASED ON TESTS DONE ON A REFINERY HEATER FUELED WITH NATURAL GAS.
130	SOLID MATERIAL COMBUSTION			0.93	0.997	0.927	0.737	0.003	ASSUMED SAME AS #133.		ASSUMED SA	ASSUMED SAME AS #133.
132	STAT. I.C. ENGINE-SOLID FUEL	N	KVB	0.93	0.997	0.927	0.737	0.003	ASSUMED SAME AS #133.		ASSUMED SA	ASSUMED SAME AS #133.
342	ASPHALTIC CONCRETE BATCH PLANT	N	KVB	0.83	0.4	0.333	0.3	0.6	TEST DONE ON A BATCH	TEST DONE	TEST DONE	ON A BATCH HOT-MIX ASPHALT PLANT.
343	CEMENT PROD./CONCRETE BATCHING	N	KVB	0.67	0.92	0.62	0.34	0.08	BASED ON TEST DONE ON		BASED ON TI	BASED ON TEST DONE ON CEMENT KILN.
393	PAVED ROAD DUST			0.17	0.46	0.08	0.03	0.54				
394	UNPAVED ROAD DUST			0.21	0.61	0.13	0.05	0.39				
396	TIRE WEAR			0.80	0.4	0.32	0.2	0.6				
397	TIRE WEAR (REPLACED BY 472)	N		0.25	1	0.25	0.1	0	SIZE FRACTIONS FROM U		KVB LITERA'	KVB LITERATURE RESEARCH - BASED ON DYNAMOMETER TESTS BY GENERAL MOTORS AND J.P. SUBRAMANI OF UNIVERSITY OF CINCINNATI.
398	BRAKE WEAR (REPLACED BY 473)	N		0.43	0.98	0.42	0.14	0.02	SIZE FRACTIONS FROM U		SAME AS TI	SAME AS TIRE WEAR 397: KVB LITERATURE RESEARCH - BASED ON DYNAMOMETER TESTS BY GENERAL MOTORS AND J.P. SUBRAMANI OF UNIVERSITY OF CINCINNATI.
399	GASOLINE VEHICLES-NO CATALYST	N	KVB	0.76	0.9	0.68	0.53	0.1	SIZE FRACTIONS FROM U		SAME AS OLI	SAME AS OLD 117: CHEMICAL COMPOSITION BASED ON TRANSPORTATION PROFILE OBTAINED BY REGRESSION ANALYSIS OF TUNNEL DATA.
400	**GASOLINE VEHICLES-CATALYST**	N	KVB	0.93	0.97	0.9	0.88	0.03	SIZE FRACTIONS FROM U		SAME AS OLI	SAME AS OLD 117: CHEMICAL COMPOSITION BASED ON TRANSPORTATION PROFILE OBTAINED BY REGRESSION ANALYSIS OF TUNNEL DATA.
401	CHROME: HEXAVALENT CHROMIUM	N	SINGLE COMI	1.00	1	1	1	0	ASSUME ALL PM2.5		SINGLE COM	SINGLE COMPOUND
411	WINDBLOWN DUST-AGRICULTURAL			0.20	0.5	0.1	0.03	0.5				
412	WINDBLOWN DUST-UNPAVED AREAS			0.24	0.5	0.12	0.06	0.5				
415	UNPAVED ROAD DUST	Y	OMNI	0.21	0.5943	0.126	0.0516	0.4057	OMNI MASS	FINAL SIZE	AVERAGE OF	AVERAGE OF 6 OMNI SOIL SAMPLES (SOILS 7,11,13,16,17,18)
416	WINDBLOWN DUST-UNPAVED RD/AREA	Y	OMNI	0.13	0.5943	0.0786	0.0516	0.4057	OMNI MASS	PM 2.5 FRX	AVERAGE OF	AVERAGE OF 6 OMNI SOIL SAMPLES (SOILS 7,11,13,16,17,18)
417	AGRICULTURAL TILLING DUST	Y	OMNI	0.15	0.4543	0.0681	0.035	0.5457	OMNI MASS	FINAL SIZE	AVERAGE OF	AVERAGE OF 8 OMNI SOIL SAMPLES (SOILS 1,4,5,9,10,14,15,21)
418	WINDBLOWN DUST - AGRIC. LANDS	Y	OMNI	0.17	0.4543	0.0786	0.035	0.5457	OMNI MASS	FINAL SIZE	AVERAGE OF	AVERAGE OF 8 OMNI SOIL SAMPLES (SOILS 1,4,5,9,10,14,15,21)
419	WINDBLOWN DUST - DESERT LANDS			0.19	0.5937	0.1131	0.0476	0.4063				
420	CONSTRUCTION DUST	Y	OMNI	0.10	0.4893	0.0489	0.0385	0.5107	OMNI MASS	FINAL SIZES	FROM P.GAF	FNEY 11-98. OMNI: MASS DATA WITH EACH CHEMICAL PROFILE.
421	LANDFILL DUST	Y	OMNI	0.15	0.4893	0.0734	0.0385	0.5107	OMNI MASS	FINAL SIZES	FROM P.GAF	FNEY 11-98. OMNI: MASS DATA WITH EACH CHEMICAL PROFILE.
422	PAVED ROAD DUST (BEFORE 1997)	Y	OMNI	0.17	0.4572	0.0772	0.0302	0.5428	OMNI MASS	FINAL SIZES	FROM P.GAF	FNEY 11-98. OMNI: MASS DATA WITH EACH CHEMICAL PROFILE.
425	**DIESEL VEHICLE EXHAUST**	Y	OMNI	**0.92**	1	0.92	0.86	0				
470	UNPAVED ROAD DUST, 97 N AFTER	Y	CRPAQS	0.10	0.5943	0.0594		0.4057	SIZE FRACT	PM2.5 FRXN	CHEMICAL:	CHEMICAL: AVERAGE OF 6 UNPAVED ROAD DUST SAMPLES (FDUPR 1-6)
471	PAVED ROAD DUST, 97 N AFTER	Y	CRPAQS	0.15	0.4572	0.0686		0.5428	SIZE FRACT	PM2.5 FRXN	CHEMICAL:	CHEMICAL: AVERAGE OF 4 PAVED ROAD DUST SAMPLES (FDPVR 1-4)
472	TIRE WEAR	N	HILDEMANN	0.25	1	0.25	0.1	0	SIZE FRACTIONS FROM U		CHEMICAL:	CHEMICAL: AVERAGE OF 2 TIRE WEAR PROFILES
473	BRAKE WEAR	N	HILDEMANN	0.43	0.98	0.42	0.14	0.02	SIZE FRACTIONS FROM U		CHEMICAL:	CHEMICAL: AVERAGE OF 2 BRAKE WEAR PROFILES (SEMI-METAL BRAKES)

Rock Crusher and Batch Plant

LAX RON Project

Fugitive PM10

	PM10	*PM2.5*	*PM10*	*PM2.5*
Equipment/Activity	*Uncontrolled (lbs/day)*		*Controlled (lbs/day)*	
Screening Rock	*28.39*	*8.52*	*2.415*	*0.163*
Tertiary Rock Crushing	*7.83*	*2.29*	*1.762*	*0.326*
Conveyor Point (assumes 1)	*3.59*	*0.75*	*0.150*	*0.042*
Max Daily Total	39.82	11.55	4.328	0.532
	Uncontrolled (tons/qrtr)		*Controlled (tons/qrtr)*	
Rock Crushing - Quarterly	801.9892	232.6711	87.1670	10.7151

Conversions

50	weeks/year
5.04	days/week
21.84	days/month
40283	days/qtr
2000	lbs/ton
3.85	qtrs/yr

USEPA AP42 Emission Factor 11.19.2-2 - Crushed Stone Processing and Pulverized Mineral Processing; 100 tons/day assumed to be maximum daily crushing/screening rate.

Controlled factors Assumed 3,264 tons/day

Batch Plant Emissions

Concrete batch plant (central mix type):

Batch plant production rate:	350	batches (cubic yards or CY) per hour (estimate) - from TBIT	moisture, lbs
Aggregate per batch:	1865	pounds per batch or per cubic yard (AP-42, Table 11.12-2, footnote "a")	33.01 = 1.77%, per Table 11.12-2, footnote b.
Sand per batch:	1428	pounds per batch or per cubic yard (AP-42, Table 11.12-2, footnote "a")	59.55 = 4.17%, per Table 11.12-2, footnote b.
Cement per batch:	491	pounds per batch or per cubic yard (AP-42, Table 11.12-2, footnote "a")	
Cement supplement per batch:	73	pounds per batch or per cubic yard (AP-42, Table 11.12-2, footnote "a")	
Total dry (aggregate, sand, cement, supplement)	3857	lbs per CY	
Total (Total dry + moisture)	3950	lbs per CY	
PM10 emissions factor, central mixer loading:	0.0048	lb/ton of aggregate, sand, cement, supplement, and moisture (controlled). Mixer loading (central mix) (controlled), AP-42, Table 11.12-1 (Emission Factors for Concrete Batching)	
PM2.5 emissions factor, central mixer loading:	0.00072	lb/ton of aggregate, sand, cement, supplement, and moisture (controlled). AP-42, Table 11.12-3 (Equation parameters for Central Mix Operations). Ratio of particle size multipliers.	
PM10 emissions factor, cement unloading into silo:	0.00034	lb/ton of cement (controlled). Mixer loading (central mix) (controlled), AP-42, Table 11.12-1 (Emission Factors for Concrete Batching)	
PM2.5 emissions factor, cement unloading into silo:	0.000051	lb/ton of cement (controlled). AP-42, Table 11.12-3 (Equation parameters for Central Mix Operations). Ratio of particle size multipliers.	
PM10 emissions factor, supplement unloading into silo:	0.0049	lb/ton of cement supplement (controlled). Mixer loading (central mix) (controlled), AP-42, Table 11.12-1 (Emission Factors for Concrete Batching)	
PM2.5 emissions factor, supplement unloading into silo:	0.00074	lb/ton of cement supplement (controlled). AP-42, Table 11.12-3 (Equation parameters for Central Mix Operations). Ratio of particle size multipliers.	
PM10 emissions (plant-wide):	3.4094	lb/hr	
PM2.5 emissions (plant-wide):	0.5114	lb/hr. Calculated based on PM10 rate and ratio of particle size multipliers from AP-42, Section 13.2.4.3.	
PM10 emissions, plant-wide:	**3.4094**	**lb/hr**	**controlled**
PM2.5 emissions, plant-wide:	**0.5114**	**lb/hr**	**controlled**

Asphalt Batch Plant

Production

VOC	0.032	lb/ton HMA	AP42, Table 11.1-5 - assume natural gas fired	8 lbs/day
CO2	0.13	lb/ton HMA	AP42, Table 11.1-7 - assume natural gas fired	31 lbs/day
NOx	0.026	lb/ton HMA	AP42, Table 11.1-5 - assume natural gas fired	6 lbs/day
CO2	33	lb/ton HMA	AP42, Table 11.1-7 - assume natural gas fired	7,975 lbs/day
SO2	0.0046	lb/ton HMA	AP42, Table 11.1-5 - assume natural gas fired	1 lbs/day
CH4	0.012	lb/ton HMA	AP42, Table 11.1-5 - assume natural gas fired	3 lbs/day
PM10 - assuming fabric filter + dryer EF	0.0272	lbs/ton HMA	AP42, Table 11.1-3&4 - drum mix hot mix plant	6.57 lbs/day
PM2.5 - assuming fabric filter + dryer EF	0.02	lbs/ton HMA	PMSIZE	5.47 lbs/day

Asphalt density	145	lbs/cubic foot http://www.hotmix.org/index.php?option=com_content&task=view&id=144&Itemid=227
Area	50,000	SF (1.1 acres) Paved area - Estimate
Depth	1	F
	50,000	cubic feet
	3,625	tons of asphalt
	15	days of construction
	242	tons/day