
DRAFT
ENVIRONMENTAL ASSESSMENT

LOS ANGELES INTERNATIONAL AIRPORT (LAX)
RECEIVING STATION "X"

Los Angeles International Airport
Los Angeles, Los Angeles County, California

Prepared for:

LOS ANGELES WORLD AIRPORTS

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by:

Ricondo and Associates, Inc.

August 2018

**This environmental assessment becomes a Federal document when evaluated, signed and dated
by the Responsible FAA Official.**

Responsible FAA Official

Date

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document contains a Draft Environmental Assessment (EA) for the Los Angeles World Airports (LAWA) proposed electrical Receiving Station "X" (RS-X) and associated electrical infrastructure at Los Angeles International Airport (LAX or Airport). The proposed improvements analyzed in this environmental documentation include the construction of the RS-X which is generally comprised of a control room, transmission distribution feeders as well as outdoor electrical equipment. This document discloses the analysis and findings of the potential impacts associated with the LAWA proposal, the No Action Alternative, and other reasonable alternatives.

BACKGROUND. The proposed RS-X and associated electrical infrastructure is seeking to address persistent power reliability, redundancy and capacity issues at LAX. The entirety of the proposed project would occur on existing Airport property.

WHAT SHOULD YOU DO? Read this Draft EA and provide comments, if applicable. Copies of this document are available for review at libraries in Los Angeles and other communities around LAX; the Federal Aviation Administration (FAA) office in El Segundo, California; and the LAWA administrative offices. Addresses of these and other locations where the Draft EA is available for review are provided in Section 5 of this document. If you have relevant information you believe has **not** been considered in this Draft EA, or if you have comments about the conclusions, you may submit your written comments by letter to the following address:

Los Angeles World Airports
Land Use and Entitlement Section
Attention: Evelyn Quintanilla, Chief of Airport Planning II
P.O. Box 92216
Los Angeles, California 90009-2216

Comments are due no later than 5:00 p.m. Pacific Daylight Time on Monday, October 8, 2018. Please allow sufficient time for mailing. LAWA must **receive** your comments by the deadline, not simply postmarked by that date.

WHAT HAPPENS AFTER THIS? LAWA will prepare written responses to comments received on the adequacy of the information presented in this Draft EA and prepare a Final EA for transmittal to the FAA for the agency's evaluation and acceptance. Following evaluation of the Final EA, the FAA will either issue a Finding of No Significant Impact (FONSI) or decide to prepare an Environmental Impact Statement (EIS).

Before including your name, address and telephone number, email or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information - may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

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1. Background and Purpose and Need

1.1 Introduction

The City of Los Angeles, through the Los Angeles World Airports (LAWA), as owner and operator of Los Angeles International Airport (LAX or “the Airport”), proposes to construct a new electrical Receiving Station “X” (RS-X) and associated electrical infrastructure improvements in order to address persistent power reliability and capacity issues at LAX.

This Environmental Assessment (EA) evaluates the effects of a proposed federal action on the surrounding environment and has been prepared pursuant to the requirements of Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA, Title 42 United States Code [U.S.C.] 4321-4370), the President’s Council on Environmental Quality (CEQ) Regulations Title 40 Code of Federal Regulations (CFR) 1500-1508, *Regulations for Implementing the Procedural Provisions of NEPA*, as well as in accordance with Federal Aviation Administration (FAA) Orders 1050.1F, *Environmental Impacts: Policies and Procedures*, and 5050.4B, *NEPA Implementing Instructions for Airport Actions*.^{1,2} EAs assist agencies in determining whether potential environmental impacts are significant. LAWA is preparing this EA as the project Sponsor, however, the FAA is the lead federal agency. The findings of the EA will be used by the FAA to determine whether to issue a Finding of No Significant Impact (FONSI) or prepare an Environmental Impact Statement (EIS).

This EA identifies the potential environmental impacts related to the proposed development associated with the RS-X at the Airport (Proposed Action), alternatives to the Proposed Action, and a no action alternative (assessing the potential environmental effects of not undertaking the Proposed Action). The EA assesses the impact categories required by FAA Orders 1050.1F and 5050.4B in relationship to the Proposed Action and demonstrates how identified impacts can be eliminated or mitigated, and provides the context for public involvement and comment. This section includes a brief description of LAX; a description of the Proposed Action; the purpose of and need for the Proposed Action; a description of the requested federal actions; a timeframe for implementation of the Proposed Action; and a description and format of this EA.

¹ U.S. Department of Transportation, Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, effective July 16, 2015.

² U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, effective April 28, 2006.

1.2 Background Information

1.2.1 DESCRIPTION OF AIRPORT

LAX is located on the western side of the Los Angeles Basin encompassing approximately 3,800 acres located at the western edge of the City of Los Angeles within a developed, urbanized region consisting of airport, commercial, and residential areas. The Airport is generally bounded on the north by Lincoln Boulevard, Westchester Parkway, and the communities of Westchester and Playa del Rey; on the east by La Cienega Boulevard, Aviation Boulevard, and the City of Inglewood; on the south by Imperial Highway and the City of El Segundo; and on the west by the Pacific Ocean. The land area west of Pershing Drive is the Los Angeles/El Segundo Dunes. **Exhibit 1-1** depicts the general site location of the Airport.

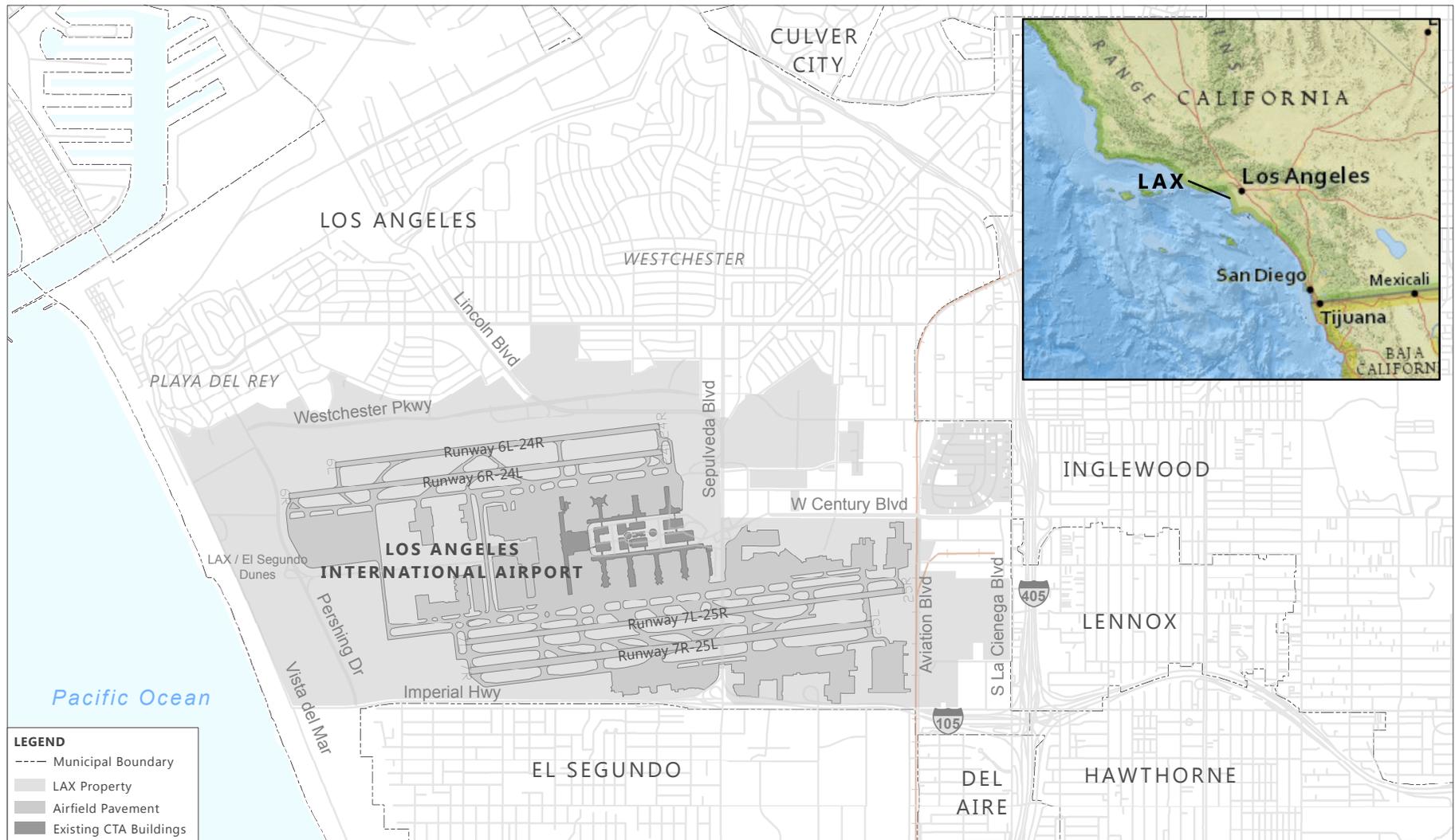
LAX is the largest commercial service airport in southern California. In 2017, LAX handled 700,362 aircraft landings and takeoffs and 84.6 million passengers, making it the second busiest airport in the United States, and the fourth busiest in the world.³ In addition to passenger service, LAX is also a major center for international air cargo. In 2017, 2,389,474 metric tons of air cargo were handled at LAX.⁴ LAX is classified as a large-hub commercial service airport in the National Plan of Integrated Airport Systems (NPIAS). Hub classifications are based on the number of passengers enplaned at an airport, and a "large hub" classification means that the airport accommodates at least one percent of total U.S. passenger enplanements.⁵ LAX is owned and operated by LAWA, with air service provided by a number of airlines, predominated by Alaska Airlines, American Airlines, Delta Air Lines, Southwest Airlines, and United Airlines.

³ City of Los Angeles, Los Angeles World Airports, "Traffic Comparison (TCOM) Los Angeles International Airport, Calendar YTD January to December 2017," January 25, 2018, Available: <https://www.lawa.org/en/lawa-investor-relations/statistics-for-lax/volume-of-air-traffic>.

⁴ City of Los Angeles, Los Angeles World Airports, "Traffic Comparison (TCOM) Los Angeles International Airport, Calendar YTD January to December 2017," January 25, 2018, Available: <https://www.lawa.org/en/lawa-investor-relations/statistics-for-lax/volume-of-air-traffic>.

⁵ U.S. Department of Transportation, Federal Aviation Administration, *Report to Congress: National Plan of Integrated Airport Systems (NPIAS), 2013-2017*, September 27, 2012.

[Preliminary Draft for Discussion Purposes Only]



SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, airport property boundary); National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., December 2017 (basemap). National Geographic World Map, ESRI Database, 2011.

EXHIBIT 1-1

General Location and Vicinity Map

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1.2.2 DESCRIPTION OF EXISTING ELECTRICAL INFRASTRUCTURE

The Los Angeles Department of Water and Power (LADWP) supplies electrical power to the LAX area primarily through Receiving Station "N" (RS-N), which is located on the north side of West Florence Avenue at Isis Avenue, approximately one-mile northeast of LAX. Two 138 kilovolt (kV) subterranean transmission lines along Aviation Boulevard connect RS-N with the Scattergood Generating Station (SGS) in El Segundo. Overhead and underground distribution lines run along rights-of-way throughout the area from RS-N to distribution points, including Distribution Station 111 (DS-111), located on the east side of Vicksburg Avenue between W. 96th and W. 98th Streets. DS-111 provides secondary power to LAX through high-voltage feeder cables within conduit banks underneath rights-of-way. The existing electrical infrastructure in the LAX-area is depicted on **Exhibit 1-2**. LAX is located at the end of LADWP's existing distribution line. Thus, LAX and FAA facilities at LAX are exposed to any incidents that occur upstream within LADWP's distribution network that result in brown⁶- or black-outs⁷, making LAX susceptible to power reliability issues.

In addition to RS-N, a second source of electrical power in the area is Olympic Receiving Station "K" (RS-K). Completed in 2016, LADWP installed a new underground 230-kV transmission service and electrical vaults running between the SGS in El Segundo and RS-K. From El Segundo, the 230-kV line runs north on Vista del Mar, east on Waterview Street, east along Westchester Parkway, and north on Loyola Boulevard. Although these transmission lines are located adjacent to LAX, neither the SGS nor RS-K currently supply power to the Airport. **Exhibit 1-3** illustrates the location of the regional existing electrical infrastructure serving the LAX area.

1.3 Description of the Proposed Action

The Proposed Action would include the installation of a new RS-X, generally comprised of an LADWP control room, transmission feeders to the 230 kV LADWP transmission lines and electrical vaults along Pershing Drive, and distribution feeders from RS-X to LAX. The LADWP control room at the RS-X would be a concrete and masonry, single-story control room building with a footprint of approximately 4,800 square feet. The RS-X would also include outdoor electrical equipment, occupying approximately 22,800 and 63,400 square feet, to the west and east of the LADWP control room, respectively. The height of the outdoor equipment would not exceed 65 feet. The RS-X would be fed by the 230 kV LADWP transmission lines connecting the SGS and RS-K, located on the west side of LAX along Pershing Drive. The new RS-X is envisioned to be a purpose-built structure, designed to accommodate 160 megavolt amperes (MVA) redundant capacity.

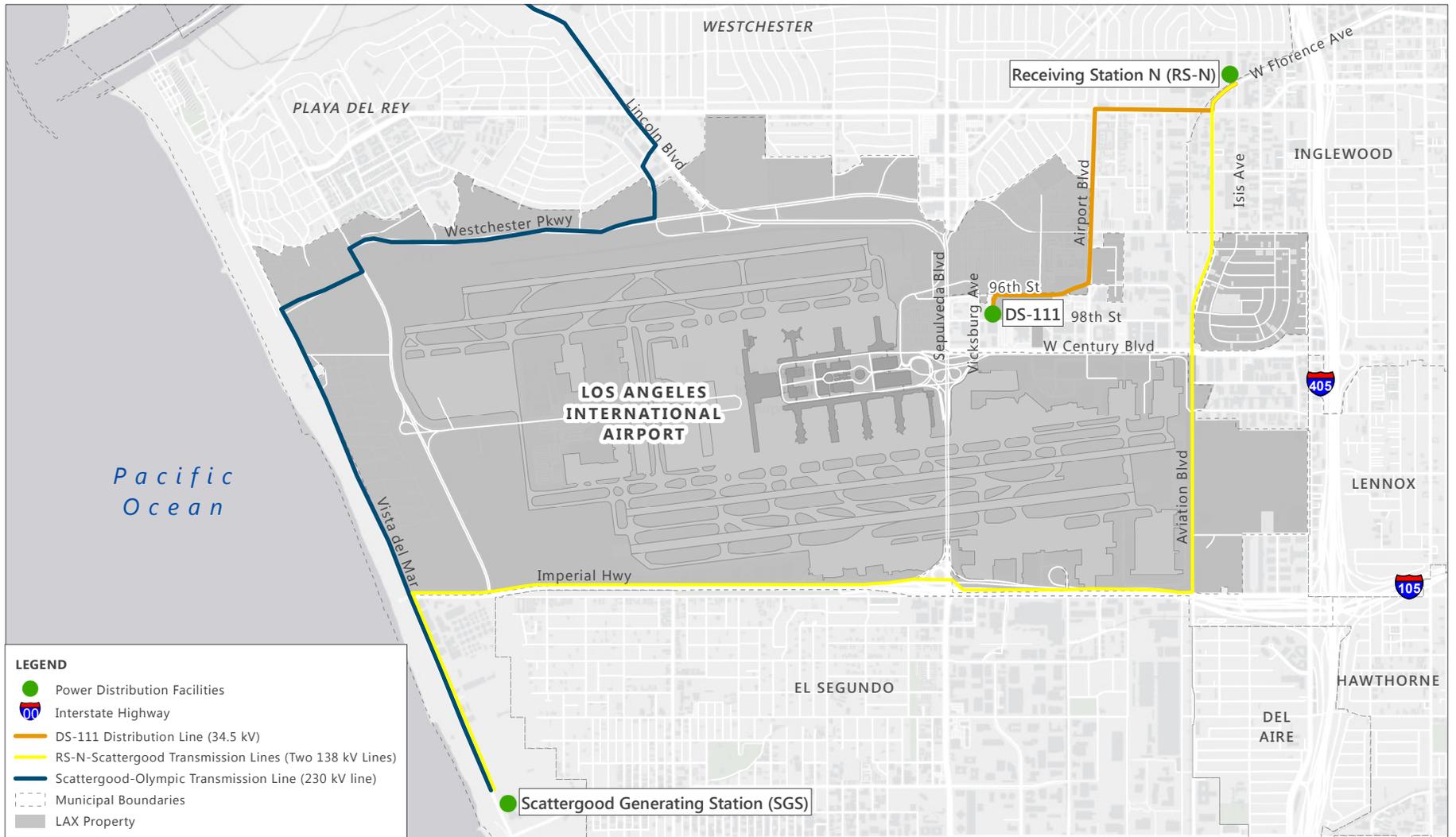
New utility connections to existing storm and wastewater drains, natural gas, communications, and other related utility services would be required to support the operations of the proposed RS-X.

⁶ Brown-outs refer to a reduction in or restriction on the availability of electrical power.

⁷ Black-outs refer to a failure of electrical power supply.

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LEGEND

- Power Distribution Facilities
- Interstate Highway
- DS-111 Distribution Line (34.5 kV)
- RS-N-Scattergood Transmission Lines (Two 138 kV Lines)
- Scattergood-Olympic Transmission Line (230 kV line)
- Municipal Boundaries
- LAX Property

SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap contributors, and the GIS user community, January 2018 (basemap); 2017 TIGER/Line Shapefiles, US Census Bureau, Geography Division, 2017 (roads); Ricondo & Associates, Inc., December 2017 (power distribution facilities, distribution and transmission lines).

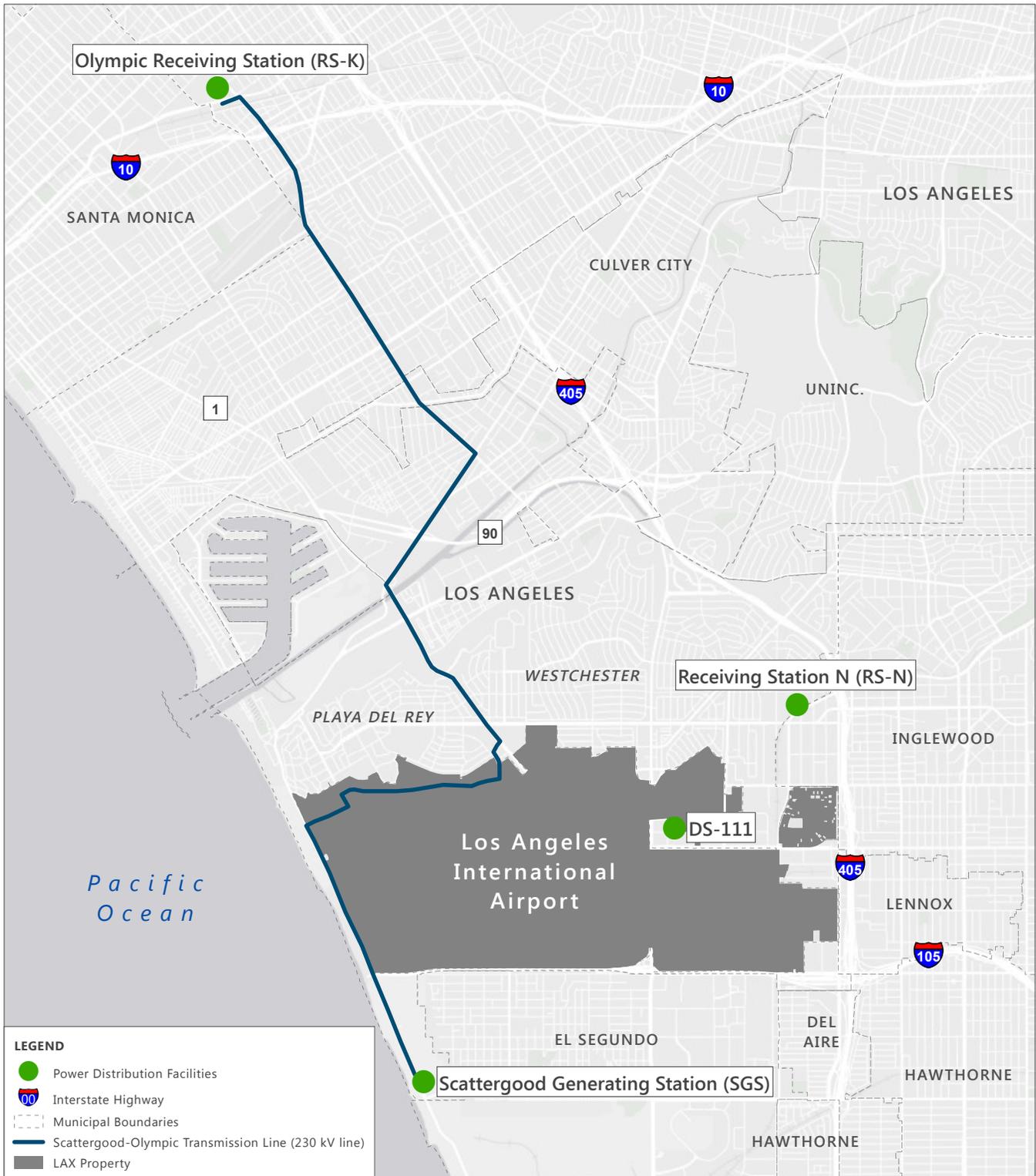
EXHIBIT 1-2



LAX-Area Existing Electrical Infrastructure

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SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap contributors, and the GIS user community, January 2018 (basemap); Ricondo & Associates, Inc., December 2017 (power distribution facilities, Scattergood-Olympic transmission line).

EXHIBIT 1-3



0 7,500 ft.

Regional Electrical Infrastructure

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1.4 Purpose and Need

Pursuant to NEPA and FAA Orders 1050.1F and 5050.4B, an EA must include a description of the purpose of a proposed action and why it is needed. Identification of the purpose and need for a proposed action provides the rationale and forms the foundation for identification of reasonable alternatives that can meet the purpose for the action and, therefore, address the need or problem. The purpose of and the need for the Proposed Action are discussed in this section.

1.4.1 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to improve power capacity and reliability and to accommodate existing demand, while ensuring reliability at projected future electrical demand levels. Another purpose of the Proposed Action is to supply LAX with a dedicated source of power to ease constraints and consequences associated with sharing power distribution with other users under the current system. Additionally, the proposed RS-X would provide redundant power to all major Airport facilities, including FAA navigation systems, airfield lighting, and the Airport Traffic Control Tower.

1.4.2 NEED FOR THE PROPOSED ACTION

Existing electrical power infrastructure serving LAX has experienced ongoing capacity and reliability issues that has resulted in black- and brown-outs at LAX causing disruptions to Airport operations. As noted in Section 1.2.1, LAX served 84.6 million passengers in 2017 making it the fourth busiest airport in the world, offering over 700 nonstop flights to 100 cities in the U.S., and over 1,300 nonstop flights to over 44 countries, rendering the Airport a critical City, regional, and international transportation facility. As such, power disruptions and outages associated with power reliability issues disrupts Airport operations and has the potential to cause national and global travel and business impacts. Additionally, the frequency of disruptions and the resultant equipment and terminal outages represents a degraded operational condition for LAX, placing passenger safety and security at risk. The power reliability problem stems from the current LADWP electrical infrastructure that serves LAX with five feeders from Receiving Station RS-N, without a redundant source of power.

Additionally, LAX does not have a dedicated source of power and shares power distribution facilities with other users. LAX is located at the end of LADWP's existing distribution line and is one of LADWP's last customers to receive power. The existing LADWP electrical infrastructure serving LAX was built in the 1960s and consists of an interconnected web of underground and overhead power lines susceptible to power anomalies and disruptions. LAX and FAA facilities at LAX are exposed to any incidents that occur upstream within LADWP's distribution network that result in brown- or black-outs, making LAX susceptible to power reliability issues. On average, LAX has experienced over 19 unplanned power failures per year over the last 5 years (i.e., approximately 100 power interruption events over the last 5 years), impacting parts of the Airport

including Airport operations and FAA navigation systems. Common causes of unplanned outages include animals, trees, traffic accidents, floods, equipment failure, wind, circuit breaker failures, and overloads.⁸

The power capacity problem stems from the rapid infrastructure expansion at the Airport. As a result, the LAX Utilities Master Plan identified the need for additional capacity to accommodate existing demand, while ensuring reliability at projected future electrical demand levels.

1.5 Requested Federal Actions

The federal actions requested of the FAA by the Sponsor include:

- Unconditional approval of the Airport Layout Plan (ALP) depicting the proposed improvements pursuant to Title 49 U.S.C. 40103(b), *Sovereignty and Use of Airspace*, 44718, *Structures Interfering with Air Commerce or National Security*, and 47107(a)(16), *Project Grant Application Approval Conditioned on Assurances about Airport Operations*; Title 14, CFR Part 77 (14 CFR 77), *Safe, Efficient Use, and Preservation of the Navigable Airspace*; and Title 14 CFR 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*;
- Determinations under Title 49 U.S.C. 47106, *Project Grant Application Approval Conditioned on Satisfaction of Project Requirements*, and 47107, *Project Grant Application Approval Conditioned on Assurances about Airport Operations*, relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP) and/or under Title 49 U.S.C. 40117, *Passenger Facility Charges*, as implemented by Title 14 CFR 158.25, *Applications*, to impose and use passenger facility charges (PFCs) collected at the Airport for the Proposed Action to assist with construction of potentially eligible development items shown on the ALP; and
- If necessary, approval of a construction safety and phasing plan to maintain aviation and airfield safety during construction pursuant to FAA Advisory Circular 150-5370-2F, *Operational Safety on Airports During Construction*, under Title 14 CFR 139, *Airport Certification* (Title 49 U.S.C. 44706, *Airport Operating Certificates*).

1.6 General Implementation Timeframe

Construction of the Proposed Action is contingent on project approvals, including the outcome of this NEPA process. Construction activities associated with the improvements would be anticipated to begin in early 2019 and be completed by early 2022, as shown in **Table 1-1**.

⁸ Burlingham, Robert, Environmental Programs Group, Los Angeles World Airports, "RS-X Review Documents: 1.0 Purpose and Need," email to Steve Culberson, February 13, 2018.

Table 1-1: Estimated Receiving Station X Schedule

PROJECT PHASE	START	COMPLETION
Environmental Review	January 2018	August 2018 ^{1/}
RS-X Construction	March 2019	January 2022

NOTE:

1/ Environmental review completion subject to approval process.

SOURCE: City of Los Angeles, Los Angeles World Airports, "Project Definition Booklet – Power Distribution Facility," July 28, 2017.

1.7 Document Requirements and Organization

The format and content of this EA conforms to the requirements of Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA, Title 42 U.S.C. 4321-4370). The content of each section of this EA is summarized below.

- Section 1—Background and Purpose and Need, provides a brief description of LAX and the existing power distribution system conditions, a description of the Proposed Action, its purpose and why it is needed, as well as timeframes associated with the Proposed Action, and requested federal actions.
- Section 2—Alternatives, provides an overview of the identification and screening of alternatives considered as part of the environmental evaluation process.
- Section 3—Affected Environment, describes existing environmental conditions within the project site study area.
- Section 4—Environmental Consequences, discusses and compares the environmental impacts associated with the Proposed Action and the No Action Alternative.
- Section 5—Coordination and Public Involvement, discusses the coordination and public involvement associated with the EA process.
- Section 6—List of Preparers
- Section 7—References
- Section 8—List of Abbreviations and Acronyms

The Appendices contain various reference materials, including technical information, and records of coordination activities.

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2. Alternatives

2.1 Introduction

2.1.1 SCOPE OF THE ALTERNATIVES ANALYSIS

This section summarizes the screening process that was used to identify, compare, and evaluate a range of alternatives to the Proposed Action. The process to identify alternatives to be considered and the screening process used to determine which alternatives would reasonably satisfy the purpose of and need for the Proposed Action are described in this section. Those alternatives that satisfy the purpose and need for the Proposed Action (see Sections 1.4.1 and 1.4.2) were next evaluated for construction feasibility and operational practicality. Alternatives that satisfied those criteria were then carried forward for analysis of environmental consequences.

The alternatives presented in this EA were determined through LAWA and LADWP planning efforts. The alternatives were developed following a review of the utility infrastructure needs for LAX, a review of space layout alternatives, and LADWP equipment layout concepts. Additionally, order of magnitude construction cost estimates and consideration of construction complexity were developed for some alternatives. Those alternatives that were not deemed financially feasible or otherwise would have a negative impact on Airport operations were not considered a viable or a practicable alternative.

2.1.2 REQUIREMENTS OF THE FAA AND NATIONAL ENVIRONMENTAL POLICY ACT

FAA Orders 1050.1F¹ and 5050.4B² set forth FAA policies and procedures to be followed in assessing the environmental impacts of aviation-related projects in compliance with NEPA. These Orders require a thorough and objective assessment of the Proposed Action, the No Action alternative, and all “reasonable” alternatives that would achieve the stated purpose and need for the Proposed Action. The alternatives analysis presented in this section of the EA is consistent with the requirements of FAA Orders 1050.1F and 5050.4B.

¹ U.S. Department of Transportation, Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, effective July 16, 2015.

² U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, effective April 28, 2006.

Section 1502.14 of the CEQ *Regulations for Implementing the Procedural Provisions of NEPA* (Title 40 CFR 1500-1508) requires that federal agencies perform the following tasks:

- Rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives which were eliminated from detailed study, briefly discuss the reasons for their elimination;
- Devote substantial treatment to each alternative considered in detail, including the proposed action, so that reviewers may evaluate the alternatives' comparative merits;
- Include reasonable alternatives not within the jurisdiction of the lead agency; and,
- Include the alternative of no action.

2.2 Identification of Potential Alternatives

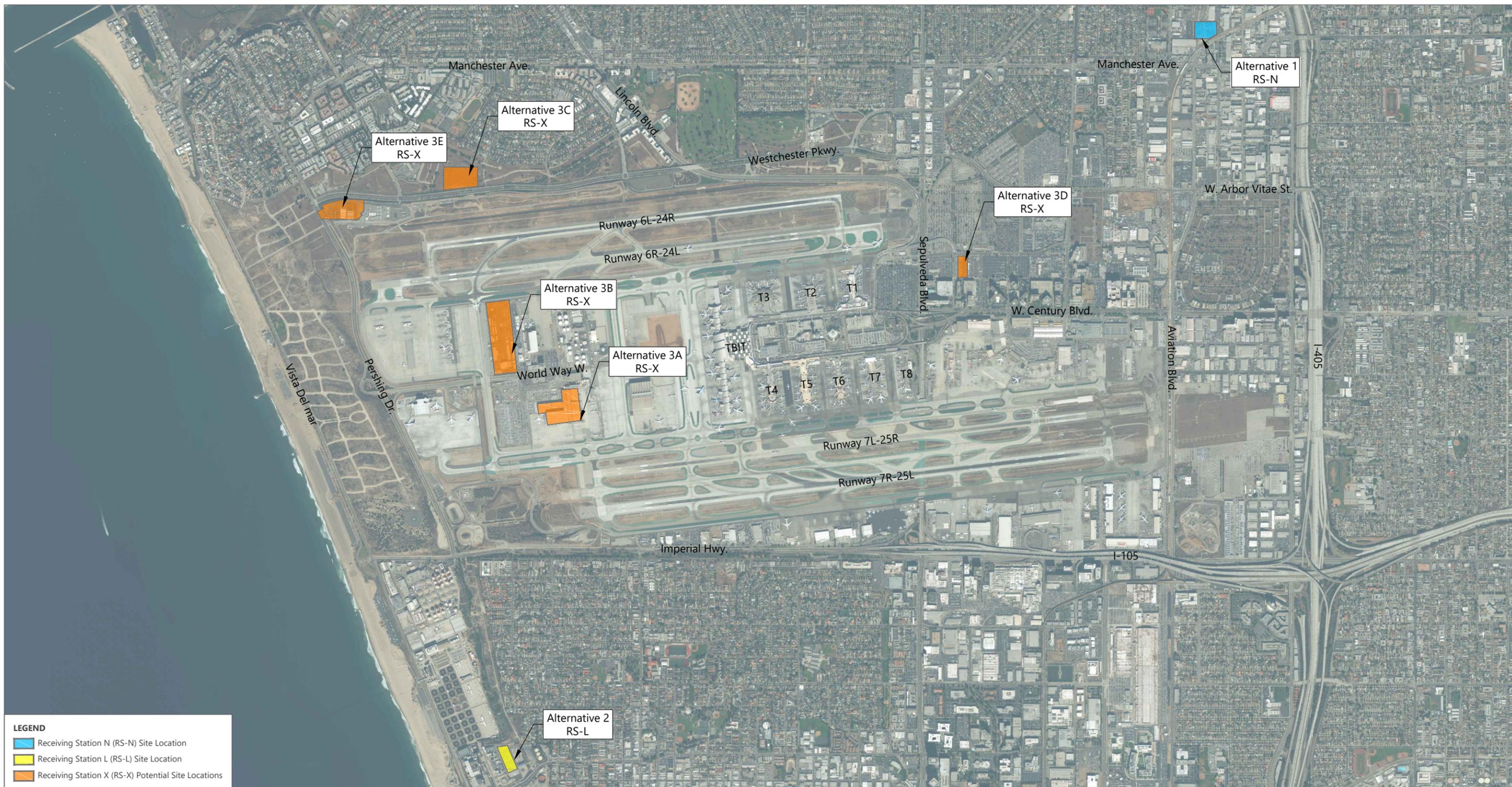
The No Action Alternative is included pursuant to NEPA and for purposes of evaluating and comparing potential environmental consequences of alternatives. Three action alternatives to the Proposed Action were identified:

- Alternative 1: Improvements to Receiving Station-N (RS-N)
- Alternative 2: Obtaining Power from Receiving Station-L (RS-L)
- Alternative 3: Construction of an On-Airport Receiving Station Facility (RS-X)

The location of these alternatives, as well as Alternative 3 potential sites, is shown on **Exhibit 2-1**.

2.2.1 NO ACTION ALTERNATIVE

The No Action Alternative would not involve any electrical infrastructure improvements, land clearing, or other construction activities. The existing electric infrastructure at LAX would remain unchanged, with LAX continuing to receive power from five 34.5 kV feeders from RS-N.



LEGEND

- Receiving Station N (RS-N) Site Location
- Receiving Station L (RS-L) Site Location
- Receiving Station X (RS-X) Potential Site Locations

SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 2-1

NORTH

0 2,100 ft.

Drawing: P:\Project-Denver\LAX\ACAD\LAX_PDF_RS-X Alternative Locations_20180511.dwg; Layout: 2-1 Location of Proposed Alts Plotted: Jun 7, 2018, 04:45PM

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2.2.2 ALTERNATIVE 1: IMPROVEMENTS TO RECEIVING STATION-N

This alternative includes the installation of new equipment at RS-N and installation of two new 34.5 kV feeders from RS-N to LAX. In addition to RS-N modifications, a new distribution station near DS-111, referred to as DS-N, would be required to allow for distribution of the new 34.5 kV feeders to LAX. To reduce the impacts of the brown-outs being caused by upsets at RS-N, this alternative assumes that installation of uninterruptible power supply (UPS) systems would be required within the terminals at LAX to prevent operational shutdown of security screening equipment. These UPS systems would reduce the power anomalies and disruptions currently being experienced on average 19 times annually, as well as any internally caused brown-outs at LAX.

2.2.3 ALTERNATIVE 2: OBTAINING POWER FROM RECEIVING STATION-L

LADWP currently operates an existing receiving station, RS-L, located near the Hyperion Water Reclamation Plant (HWRP) located southwest of LAX. LADWP has indicated that it is possible, based on changes planned at the HWRP, that 80 MVA of power capacity could be available and distributed to LAX. To accommodate distribution of this power to LAX, some modifications to RS-L would be required to increase capacity by 40 MVA, and a new 34.5 kV ductbank would need to be installed between RS-L and LAX. In addition to the RS-L modifications, a new distribution station would need to be installed near LAWA's West Administration Building.

2.2.4 ALTERNATIVE 3: CONSTRUCTION OF AN ON-AIRPORT RECEIVING STATION FACILITY (RS-X)

Alternative 3 includes the construction of a new receiving station, referred to as RS-X, on LAX property. Existing 230 kV LADWP power lines, located on the west side of LAX along Pershing Drive, would feed the new RS-X. The new RS-X is envisioned to be a purpose-built structure providing a dedicated source of power to the Airport, solely serving Airport loads, designed to accommodate 160 MVA redundant capacity. Alternative 3 would include feeders to connect the new RS-X to the midfield area of the airfield.

During LAX and LADWP planning efforts, several on-Airport sites were identified for potential development as an RS-X. Sites were identified using the following criteria:

- Minimum of 3 to 3-1/2 acres in size;
- Proximity to the existing LADWP 230 kV transmission line on the west side of LAX along Pershing Drive;
- Proximity to the existing LAX 34.5 kV ductbank distribution points of connection;
- Provide redundant capacity to 230 kV and 34.5 kV equipment and feeders, and 120 MVA redundant capacity;
- Allow for construction of up to 65-foot tall electrical equipment;
- Direct access to a city street;
- Located in an industrial area with the ability for fenced security;
- Ability for future expansion;

- Proximity to LAWA operations and maintenance facilities;
- No impact to potential future Airport facilities;
- No impact to the El Segundo blue butterfly habitat;
- Located outside of the coastal zone; and
- Minimal interference with existing utility lines.

Based on these site criteria, five potential sites on LAX property were identified, as shown on Exhibit 2-1:

- Alternative 3A: Existing United Airlines Hangar site along World Way West;
- Alternative 3B: West side of LAX near the existing Airport maintenance facility;
- Alternative 3C: North of Westchester Parkway in the LAX Northside;
- Alternative 3D: Near the existing DS-111 Substation; and
- Alternative 3E: Northwest corner of LAX near the intersection of Westchester Parkway and Pershing Drive

2.3 Screening Process and Evaluation Criteria

This section outlines the screening process and criteria utilized to evaluate alternatives and identify feasible alternatives for detailed environmental analysis. The evaluation of the alternatives in this EA was performed using a two-step evaluation process:

- Step 1: Would the alternative meet the Purpose and Need of the Proposed Action, as discussed in Sections 1.4.1 and 1.4.2 of this EA?
- Step 2: Would the alternative be feasible to construct within operational and physical constraints at the Airport and would the alternative be practical to operate?

First, each alternative was evaluated to determine whether it would meet the purpose of and need for the Proposed Action. Each alternative found to meet the Step 1 criteria was then evaluated in Step 2 to determine whether or not it would be constructible, considering existing physical and operational constraints. The alternatives meeting all criteria were retained for further analysis of environmental impacts, as presented in Section 4, *Environmental Consequences*, of this EA. The No Action Alternative was also retained for detailed analysis, as required by CEQ and FAA guidance.

2.3.1 STEP 1 CRITERIA: PURPOSE AND NEED

Would the alternative meet the purpose of and need for the Proposed Action, as discussed in Section 1.4 of this EA? Specifically, the criterion for this analysis considers whether or not an alternative, if implemented, would improve reliability and provide a redundant source of power to the Airport. Those alternatives that did not satisfy the purpose and need for the Proposed Action were eliminated from further consideration.

2.3.2 STEP 2 CRITERIA: CONSTRUCTION FEASIBILITY AND OPERATIONAL PRACTICALITY

The Step 2 screening criteria addressed two key considerations:

- Would the alternative be feasible to construct given physical site constraints and requirements, and within the physical, and operational constraints of the Airport environment?
- Would the alternative have operational impacts after construction?

As such, alternatives that had fewer complexities in terms of negotiating, staging, phasing, and construction activities, as well as fewer operational inefficiencies or complications, were considered more feasible and practical than those with highly complex construction or operational issues.

2.4 Evaluation of Alternatives

2.4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, no activities surrounding electrical infrastructure improvements, land clearing, or other construction activities would take place and the existing electrical infrastructure would remain unchanged. As such, the existing reliability issues and lack of redundancy would persist and LAX would continue to remain at risk for brown- and black-outs into the future.

Pursuant to Title 40 CFR 1502.14(d), paragraph 6-2.1(d) of FAA Order 1050.1F, and paragraph 706(d) of FAA Order 5050.4B, analysis of the No Action alternative is required and as such it was included as part of the detailed environmental analysis in this EA.

2.4.2 ALTERNATIVE 1: IMPROVEMENTS TO RECEIVING STATION-N

Step 1: Purpose and Need

The Step 1 criteria examines whether an alternative would meet the purpose and need of the Proposed Action. The primary purpose of the Proposed Action is to provide greater power reliability to LAX, as well as to provide a redundant source of power for critical LAX facilities. Currently, LAX sits at the end of the RS-N distribution lines and shares power distribution facilities with other users of the system. As such, the installation of additional feeders to RS-N or improvements to RS-N would require upgrades to the entire upstream network in order to notably increase power reliability for LAX. Therefore, the installation of additional feeders to RS-N or upgrades to RS-N would not solve the power reliability issues as upgrades to the entire distribution system would be impractical, and would not provide a second or dedicated source of power to LAX and FAA facilities. The installation of UPS systems within the terminals would increase power reliability by preventing operational shutdown of security screening equipment and other systems during a loss of power. However, UPS systems are temporary in nature and would only provide backup power for a short-term duration. Therefore, use of the UPS systems in the LAX terminals would not fully address reliability issues, nor would the systems provide a redundant source of power or provide backup power to all Airport facilities. Although improvements to RS-N would provide increased power capacity to support both existing

and projected future needs, Alternative 1 would not adequately solve power reliability issues nor would it provide a redundant source to the Airport and, as such, would not meet the purpose and need of this project. The Improvements to RS-N Alternative was, therefore, eliminated from further consideration in this EA.

2.4.3 ALTERNATIVE 2: OBTAINING POWER FROM RECEIVING STATION-L

Step 1: Purpose and Need

Under Alternative 2, the Airport would receive up to approximately 80 MVA of additional electrical capacity from RS-L, which may become available based on changes planned at the HWRP. Should the RS-L be able to provide additional electrical capacity to LAX, existing reliability and redundancy issues would be alleviated, and would provide a redundant source of power to the Airport. However, distribution of power from RS-L to LAX is dependent on LADWP implementing the planned changes at the HWRP and would also be dependent on the subsequent amount of power available to LAX. Due to uncertainty about the timing of implementing the planned changes at HWRP, and the inability of LADWP to commit, based on the planned changes at HWRP, to supplying the required power to LAX, this alternative was deemed impractical. Any future decision from LADWP regarding power availability for distribution to LAX is out of the control of LAWA. Thus, Alternative 2 would not meet the purpose and need of the Proposed Action, and was eliminated from further consideration in this EA.

2.4.4 ALTERNATIVE 3: CONSTRUCTION OF AN ON-AIRPORT RECEIVING STATION FACILITY (RS-X)

Step 1: Purpose and Need

Under any variation of Alternative 3 (including Alternatives 3A through 3E), an on-site receiving station facility (RS-X) and support infrastructure would be constructed on Airport property. The construction of RS-X would provide additional power reliability and a redundant source of power to the Airport. The proposed RS-X would be a dedicated power source to LAX, solely serving Airport loads. As such, the implementation of Alternative 3 would satisfy the purpose and need of the Proposed Action and has been retained for further analysis under the Step 2 criteria.

Step 2: Construction Feasibility and Operational Practicality

As discussed in Section 2.2.4, LAWA identified five potential sites on LAX property for the RS-X (see Exhibit 2-1). LAWA then analyzed each site for construction feasibility and operational practicality. Alternative 3A, at the existing United Airlines Hangar site, was dismissed as the site is planned for existing and future aeronautical uses rather than for an electrical substation. Alternative 3B, at the west side of LAX near the existing Airport maintenance facility, was dismissed because it was only feasible if the existing Airport maintenance facility was relocated. However, LAWA has not determined whether or when such a relocation might occur. Alternative 3C, north of Westchester Parkway in the LAX Northside, was dismissed due to its high visibility to the public and because the LAX Northside Design Guidelines and Standards do not allow this use in this area of the LAX Northside.³ Alternative 3D, near the existing DS-111, was dismissed based on logistical

³ City of Los Angeles, Los Angeles World Airports, *LAX Northside Design Guidelines and Standards*, January 2015.

difficulties with construction of distribution and transmission lines. Based on the proximity and accessibility to existing electrical infrastructure, Alternative 3E, on the southeast corner of Westchester Parkway and Pershing Drive currently occupied by the Midfield Satellite Concourse (MSC) project management facilities office and parking, was selected as the most practical location for RS-X.

Once site Alternative 3E was selected, several site concepts were analyzed based on construction feasibility and operational practicality, as described and depicted in **Appendix A**. No equipment or structures would be located within the Runway 6L-24R [northernmost LAX runway] Runway Protection Zone (RPZ) under any of the site layout concepts under Alternative 3E. Upon completion of the analysis, it was determined that Site Layout Alternative 4 was feasible to construct and operationally practical, thus, it was selected as the preferred site layout. Based on the review of potential alternatives considering construction complexity and feasibility, as well as operational practicality, Alternative 3E with Site Layout Alternative 4 was retained for detailed environmental analysis in Section 4, *Environmental Consequences*, of this EA.

2.5 Alternatives Screening Process Results Summary

Each of the alternatives was evaluated against the Step 1 evaluation criteria. If an alternative did not pass all Step 1 evaluation criteria, it was eliminated from further consideration and not carried forward to Step 2. Similarly, in the Step 2 evaluation, retained alternatives that did not pass evaluation criteria were eliminated and did not proceed to a detailed evaluation as part of this EA. The exception is the No Action Alternative, which is retained pursuant to the CEQ regulations implementing NEPA. **Table 2-1** summarizes the results of the alternatives screening evaluation.

Table 2-1: Summary of Alternatives Screening Evaluation

ALTERNATIVE	ALTERNATIVE PASS TO THE NEXT STEP		RETAINED FOR FURTHER ANALYSIS IN THE DRAFT EA?
	STEP 1	STEP 2	
No Action Alternative	No	N/A	Yes
Alternative 1 – Improvements to RS-N	No	N/A	No
Alternative 2 – Obtaining Power from RS-L	No	N/A	No
Alternative 3 – Construction of an On-Airport Receiving Station Facility (RS-X)			
Alternative 3A – Existing United Airlines Hangar Site	Yes	No	No
Alternative 3B – West side of LAX, Near the existing Airport Maintenance Facility	Yes	No	No
Alternative 3C – North of Westchester Parkway in the LAX Northside	Yes	No	No
Alternative 3D – Near the Existing DS-111 Substation	Yes	No	No
Alternative 3E – Northwest Corner of LAX	Yes	Yes	Yes

SOURCE: Ricondo & Associates, Inc., January 2018.

2.6 Sponsor's Preferred Alternative (Proposed Action)

Based on the analysis conducted above, Alternative 3E, the construction of RS-X at the southeast corner of Westchester Parkway and Pershing Drive, with Site Layout Alternative 4, is the Sponsor's preferred alternative (see **Exhibit 2-2**). This alternative meets the purpose of and need for the Proposed Action, is feasible to construct, and maintains operational practicality.

The RS-X would be a concrete and masonry, single-story LADWP control room building with a footprint of approximately 4,800 square feet. The RS-X would include outdoor electrical equipment, occupying approximately 22,800 and 63,400 square feet to the west and east of the control room building, respectively. The height of the outdoor equipment would not exceed 65 feet. Existing 230 kV LADWP power lines, located on the west side of LAX along Pershing Drive, would feed the new RS-X. The new RS-X is envisioned to be a purpose-built structure, designed to accommodate 160 MVA redundant capacity. Prior to the construction of RS-X, the site would be cleared and the existing MSC Project Management Office trailers would be demolished.

Alternative 3E would include feeders to connect the new RS-X to the midfield area of the airfield, as shown on **Exhibit 2-3**. Four new 230 kV pathways would connect from the site to existing 230 kV ductbanks that run under the southbound lanes of Pershing Drive. Two new 34.5 kV pathways would traverse underground from the site following the existing service road within the Airport Operations Area (AOA) parallel to Pershing Drive, turning east and running parallel to and south of World Way West.

A driveway entry would be provided to and from the RS-X site from Pershing Drive. The entrance would be a gated service drive off Pershing Drive that would be restricted to right-in turn only. Once operational, it is anticipated that vehicles would enter the site approximately once a week. Entry from Pershing Drive would also be provided during construction.

The location of the proposed facilities would be outside of the RPZ, approach/departure surfaces and Federal Aviation Regulation (FAR) Part 77 airspace surfaces associated with Runway 6L-24R. To achieve this, the proposed RS-X Project would require grading to a maximum depth of 30 feet at the proposed project site to reduce the elevation to the current grade of Pershing Drive. This would permit the height of electrical equipment and structures to be a maximum of 65 feet. Site grading would also be necessary to provide stormwater flow direction from east to west over the site. The Proposed Action Alternative is subject to modification during final design, including surveys and FAA approvals.

The Proposed Action would be constructed in accordance with a wide range of LAWA standard control measures to reduce or avoid construction impacts. These measures include requiring the construction contractor to demonstrate that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions during construction, that all areas to be paved should be completed as soon as practical, and building pads should be laid as soon as practical after grading.



SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

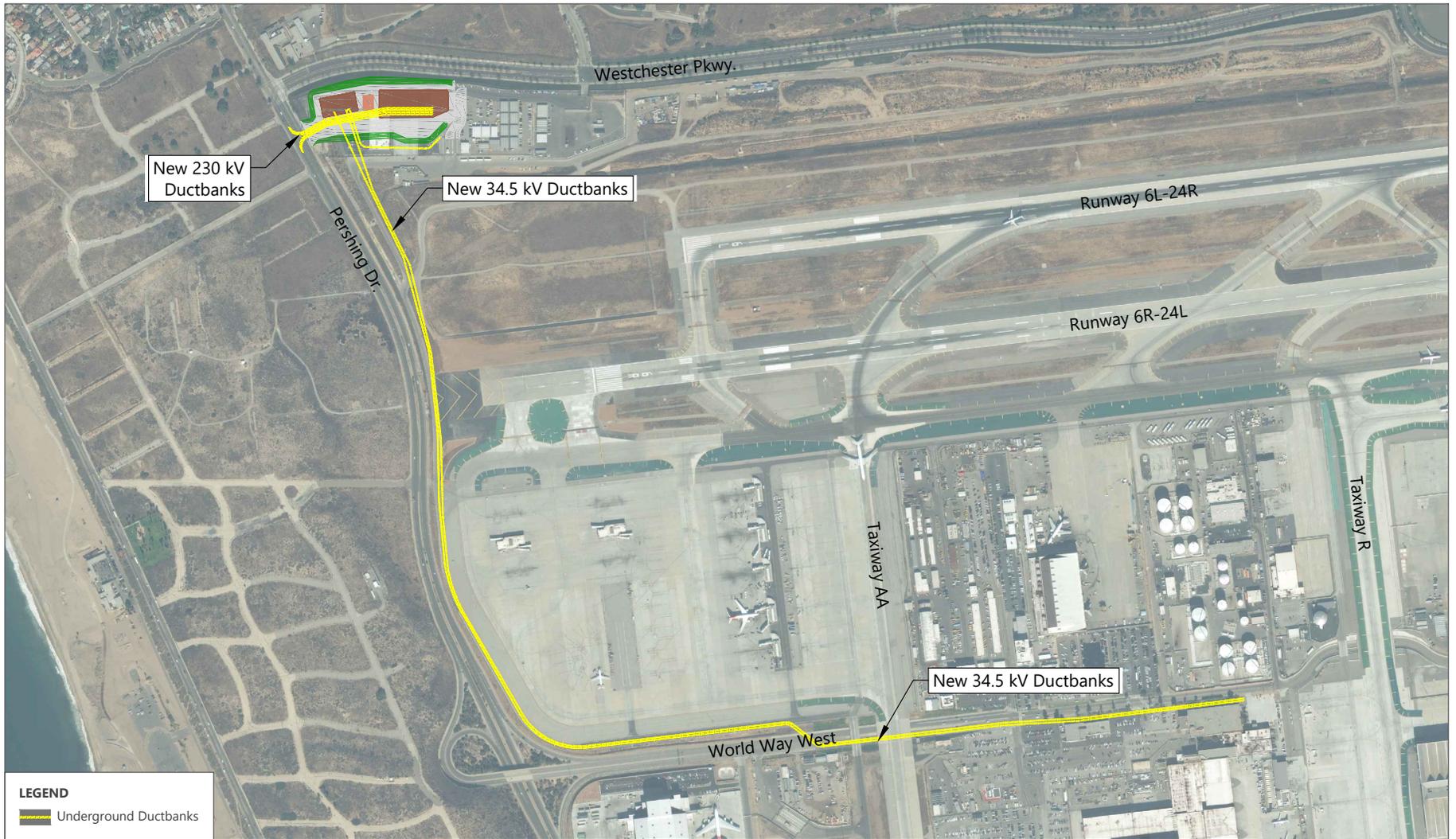
EXHIBIT 2-2

Proposed Action Alternative
 Site Layout



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SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 2-3



Proposed Action Alternative Electrical Feeders

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3. Affected Environment

3.1 Introduction and Description of Study Area

This section describes the existing conditions and resources within the geographic area that could potentially be directly or indirectly affected by the implementation of the Proposed Action. The CEQ regulations define direct effects as those “which are caused by the action and occur at the same time and place.”¹ Indirect effects are defined by the CEQ regulations as those “which are caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”² In accordance with FAA Orders 1050.1F³ and 5050.4B,⁴ those resources that could potentially be affected by the Proposed Action are discussed herein. This section identifies the geographic areas potentially affected by the Proposed Action, identifies environmental resources that would not be affected by the Proposed Action, and documents existing conditions for potentially affected resources. The potential environmental impacts of the Proposed Action are discussed in the fourth section of this EA, *Environmental Consequences*.

3.1.1 PROPOSED PROJECT AREA

For the purposes of assessing the potential direct and indirect effects of the Proposed Action and the No Action Alternative on environmental resources, a study area, referred to as the Proposed Project Area, was defined to encompass the overall area containing all components of the Proposed Action. The Proposed Project Area is located on the northwest corner of LAX near the intersection of Westchester Parkway and Pershing Drive. The Proposed Project Area encompasses approximately 6 acres and is generally bound by Westchester Parkway to the north, Pershing Drive to the west, the Secured Area Access Post and MSC project management office trailers to the east and Runway 6L-24R to the south. The Proposed Project Area

¹ President’s Council on Environmental Quality (CEQ) Regulations Title 40 Code of Federal Regulations (CFR) 1508.8(a), *Effects*.

² President’s Council on Environmental Quality (CEQ) Regulations Title 40 Code of Federal Regulations (CFR) 1508.8(b), *Effects*.

³ U.S. Department of Transportation, Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, effective July 16, 2015.

⁴ U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, effective April 28, 2006.

additionally includes underground ductbanks along the east side of Pershing Drive and along World Way West, as shown on **Exhibit 3-1**.

The Proposed Project Area was previously analyzed as part of the Detailed Study Area for the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*, completed and finalized in June 2014.⁵ The information from the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA* was utilized to the extent practical, but all areas were reviewed to determine any changes to individual environmental resources within the Proposed Project Area.

3.1.2 STUDY YEARS

Temporary effects and ground disturbance effects associated with construction of the Proposed Action would occur between 2019 and 2022, as discussed in Section 1.6. The first full year of operation of the new RS-X would be 2023.

3.2 Environmental Resources Not Affected

The environmental resources which would not be affected by the Proposed Action, due to their absence within or in the vicinity of the Proposed Project Area (as defined below), are:

- **Biological Resources.** The Proposed Project Area is located on previously disturbed and developed land with airport-related or urban uses. Previous site surveys and database searches revealed that there are no federal or state threatened, endangered, or protected species with the potential to occur within or in the vicinity of the Proposed Project Area. Additionally, no known habitat for these species is present within the Proposed Project Area. The El Segundo Blue Butterfly Habitat Restoration Area (HRA) is located on the west side of Pershing Drive, adjacent to the Proposed Project Area.
- **U.S. Department of Transportation (DOT) Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f) Resources.** No Section 4(f) or Section 6(f) properties are present or located within or in the vicinity of the Proposed Project Area.
- **Farmlands.** No prime or unique farmlands are present in the Proposed Project Area. The area is predominately developed or paved, with the exception of a few landscaped areas maintained along roadways.

⁵ City of Los Angeles, Los Angeles World Airports, *Proposed Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project, Final Environmental Assessment*. June 2014.



LEGEND

- Proposed Project Area
- Underground Ductbanks

SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 3-1



Proposed Project Area

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- Floodplains. A review of the most current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the LAX area (September 26, 2008) indicates that no 100-year floodplain areas are located within the Proposed Project Area.⁶ Therefore, no impacts to 100-year floodplains would occur.
- Wetlands. No federally protected wetlands are present in the Proposed Project Area.
- Wild and Scenic Rivers. No Wild and Scenic Rivers are located within the Proposed Project Area.

In accordance with the guidance provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, no further examination of these environmental resources is provided in this EA.

3.3 Air Quality

LAX is located in the South Coast Air Basin. The South Coast Air Basin is designated as a federal nonattainment area for ozone (O₃), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM_{2.5}), and lead (Pb); and a state nonattainment area for O₃, particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀), and PM_{2.5}. Nonattainment designations under the Clean Air Act (CAA) for O₃ and PM_{2.5} are categorized into levels of severity based on the level of concentrations above the standard, which is also used to set the required attainment date. Attainment/maintenance means that the pollutant is currently in attainment and that measures are included in the State Implementation Plan (SIP) to ensure that the National Ambient Air Quality Standards (NAAQS) for that pollutant are not exceeded again (maintained). **Table 3-1** presents the federal and state attainment designations for each of the criteria air pollutants.

⁶ Federal Emergency Management Agency, *Flood Insurance Rate Map Panel 1760_Map Number 06037C1760F*, September 26, 2008; Federal Emergency Management Agency, *Flood Insurance Rate Map Panel 1745_Map Number 06037C1754F*, September 26, 2008.

Table 3-1: South Coast Air Basin Attainment Status

POLLUTANT	NATIONAL STANDARDS ^{1/}	STATE STANDARDS
Ozone (O ₃) 8-Hour Standard	Nonattainment – Extreme	Nonattainment
Ozone (O ₃) 1-Hour Standard	(Nonattainment – Extreme) ^{2/}	N/A
Carbon Monoxide (CO)	Attainment – Maintenance	Attainment
Nitrogen Dioxide (NO ₂)	Attainment – Maintenance	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Respirable Particulate Matter (PM ₁₀)	Attainment – Maintenance	Nonattainment
Fine Particulate Matter (PM _{2.5})	Nonattainment – Serious ^{3/}	Nonattainment
Lead (Pb)	Nonattainment	Attainment

NOTES:

N/A = not applicable, no state standard.

1/ Status as of June 17, 2016.

2/ The South Coast Air Basin had not attained the 1-hour O₃ standard by the time it was replaced with the 1997 8-hour O₃ standard. Therefore, the State Implementation Plan for the South Coast must still contain demonstrations that the 1-hour O₃ standard will be attained.

3/ Classified as attainment for 1997 NAAQS, moderate nonattainment for 2012 NAAQS and serious nonattainment for 2006 NAAQS. Thus, for conformity purposes, the serious nonattainment *de minimis* threshold will be used.

SOURCES: U.S. Environmental Protection Agency, "Green Book Nonattainment Areas," Available: <https://www.epa.gov/green-book> (accessed January 2018); California Air Resources Board, "State Area Designation Maps," Available: <http://www.arb.ca.gov/desig/adm/adm.htm>, effective December 2015; U.S. Environmental Protection Agency. Federal Register vol. 81 No. 142 48350, Available: <https://www.federalregister.gov/documents/2016/07/25/2016-17410/clean-data-determination-for-1997-pm25>, effective August 24, 2016.

The South Coast Air Quality Management District (SCAQMD) maintains a network of air quality monitoring stations located throughout the South Coast Air Basin. The closest monitoring station to LAX is the Southwest Coastal Los Angeles Monitoring Station located at 7201 W. Westchester Parkway (LAX Hastings site). This station monitors O₃, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and PM₁₀. Data available from this monitoring station is summarized for the five-year period of 2012 to 2016 in **Table 3-2**. However, as PM_{2.5} has not been historically monitored at the LAX Hastings station, data for this pollutant was obtained from the South Coastal Los Angeles County Monitoring Station located at 3648 North Long Beach Boulevard (North Long Beach).

Although Pb is a criteria pollutant, it was not evaluated in this EA because the Proposed Action would have negligible impacts on Pb levels in the South Coast Air Basin. The only source of Pb emissions from LAX is aviation gasoline (AvGas) associated with piston-engine general aviation aircraft; however, the Proposed Action would not affect aircraft operations; very few, if any, piston engine aircraft fly into LAX; and, AvGas is no longer stored at the fuel farm operated by LAXFUEL.

Sources of operational air pollutant emissions within the Proposed Project Area are typical of sources associated with commercial airports in urban areas and include aircraft operations, motor vehicle activities (e.g., personal, delivery trucks, buses, etc.) on Airport roads and the surrounding roadway network, and industrial uses.

Table 3-2: Ambient Air Quality Data

POLLUTANT	2012	2013	2014	2015	2016
Ozone (O₃)^{1/}					
Maximum Concentration 1-hr period, ppm	0.106	0.105	0.114	0.096	0.087
Maximum National Concentration 8-hr period, ppm	0.075	0.081	0.080	0.077	0.080
Maximum California Concentration 8-hr period, ppm	0.075	0.082	0.080	0.078	0.080
Carbon Monoxide (CO)^{1/}					
Maximum Concentration 1-hr period, ppm	2.8	3.1	2.7	1.7	1.6
Maximum National Concentration 8-hr period, ppm	1.51	0	1.9	--- ^{2/}	1.3
Maximum California Concentration 8-hr period, ppm	1.73	2.51	1.9	--- ^{2/}	1.3
Nitrogen Dioxide (NO₂)^{1/}					
Maximum Concentration 1-hr period, ppm	0.077	0.078	0.087	0.087	0.082
Annual Arithmetic Mean (AAM), ppm	0.010	0.012	0.012	0.011	0.010
Sulfur Dioxide (SO₂)^{1/}					
Maximum Concentration 1-hr period, ppm	0.0050	0.0095	0.0154	0.0150	0.010
Maximum Concentration 24-hr period, ppm	0.0013	0.0019	0.0025	0.0016	0.0019
Annual Arithmetic Mean (AAM), ppm	--- ^{2/}	--- ^{2/}	--- ^{2/}	0.0005	0.0006
Respirable Particulate Matter (PM₁₀)^{1/}					
Maximum National Concentration 24-hr period, µg/m ³	31	38	46	42	43
Maximum California Concentration 24-hr period, µg/m ³	30	37	45	42	--- ^{2/}
Annual National Concentration, µg/m ³	19.8	20.8	22.1	21.2	21.6
Annual California Concentration, µg/m ³	19.6	--- ^{2/}	21.9	--- ^{2/}	--- ^{2/}
Fine Particulate Matter (PM_{2.5})^{3/}					
Maximum National Concentration 24-hr period, µg/m ³	49.8	47.2	51.5	48.8	29.3
Maximum California Concentration 24-hr period, µg/m ³	58.6	51.7	51.4	48.8	29.3
Annual National Concentration, µg/m ³	10.3	11.3	11.4	12.9	10.3

NOTES:

1/ Air Quality data from the Southwest Coastal Los Angeles Monitoring Station located at 7201 W. Westchester Parkway (LAX Hastings site).

2/ --- = insufficient data was available to determine the value

3/ PM_{2.5} data is from north Long Beach (south coastal) monitoring station.

SOURCES: California Air Resources Board, iADAM: Air Quality Data Statistics, Available: <http://www.arb.ca.gov/adam/>, accessed January 25, 2018; California Air Resources Board, AQMIS2, Available: <http://www.arb.ca.gov/aqmis2/aqmis2.php>, accessed January 25, 2018.

3.4 Climate

Operational aircraft emissions for LAX were estimated for 2017 based on the 2015 emissions inventory presented in the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*. The 2015 greenhouse gas (GHG) emissions were extrapolated to 2017 emissions based on the approximately 6.8 percent increase in aircraft operations at LAX from 2015 to 2017. Similarly, baseline operational emissions from Airport landside and building sources, including on-Airport and off-Airport roadways, were obtained as part of the *LAX Landside Access Modernization Program EA*, and increased to estimated 2017 levels based on the increase in aircraft operations compared to 2015, with results as shown on **Table 3-3**. The traffic emissions are for Airport-related trips on the local roadway network.

Table 3-3: 2017 Estimated Existing Airport Operational GHG Emissions

EMISSION SOURCE	ANNUAL EMISSIONS (METRIC TONS CO ₂ e PER YEAR) ^{1/}			
	CO ₂	CH ₄	N ₂ O	TOTAL (CO ₂ e) ^{2/}
Aircraft	787,634	N/A	N/A	787,634
Autos	344,407	3,584	4,701	352,962
Trucks	50,561	160	247	50,968
Parking	24,508	255	334	25,098
Indirect Electrical Demand	28,668	297	391	29,357
TOTAL ^{1/}	1,235,779	4,298	5,673	1,245,749

NOTES:

CO₂e = carbon dioxide equivalent CO₂ = carbon dioxide CH₄ = methane N₂O = nitrous oxide N/A = Not Applicable

1/ GHG emissions were extrapolated to estimated 2017 emissions based on the growth in operations at LAX from 2015 to 2017.

2/ Totals may not add exactly because of rounding.

SOURCES: Aircraft emissions: Los Angeles World Airports, *Proposed Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project, Final Environmental Assessment*. June 2014; All other emissions: City of Los Angeles, Los Angeles World Airports, *Los Angeles International Airport (LAX) Landside Access Modernization Program, Final Environmental Assessment and Final General Conformity Determination, December 2017*; Airport Operations: City of Los Angeles, Los Angeles World Airports, *Airport Operations- Statistics for LAX*, <https://www.lawa.org/en/lawa-investor-relations/statistics-for-lax> (accessed May 8, 2018).

3.5 Coastal Resources

The California Coastal Commission (CCC) has established that in developed areas, the coastal zone begins at the mean high tide line and extends 1,000-feet inland. Within the vicinity of LAX and the Proposed Project Area, the coastal zone extends into approximately the middle of Pershing Drive, as shown on **Exhibit 3-2**. The proposed RS-X would connect to existing 230 kV LADWP power lines and underground electrical vaults that exist on the western portion of Pershing Drive, within the coastal zone. Any federal activity affecting the coastal zone must be consistent with the California Coastal Act (CCA).



SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 3-2



Coastal Zone Within the Proposed Project Area

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3.6 Hazardous Materials, Solid Waste, and Pollution Prevention

This section provides a discussion of hazardous materials, existing contamination, and waste streams present in the Proposed Project Area. This section is organized to discuss:

- Hazardous materials and waste
- Solid waste
- Pollution prevention measures

3.6.1 HAZARDOUS MATERIALS AND WASTE

The types, characteristics, and occurrences of hazardous materials and other regulated substances at LAX are typical of large metropolitan airports that offer commercial and cargo services. These services include the fueling, servicing, and repair of aircraft, ground support equipment (GSE), and motor vehicles; the operation and maintenance of the airfield, main terminal complex and parking facilities; and a range of other special-purpose facilities and operations connected with aviation (i.e., air cargo facilities, navigation and air traffic control functions).

The substances that are used in large quantities at LAX that are classifiable as hazardous include aircraft and motor vehicle fuels. Other, smaller amounts of petroleum-products (e.g., lubricants and solvents), waste materials (e.g., used oils, filters, cleaning residues, and spent batteries) and manufactured chemicals (e.g., herbicides, fertilizers, paints, fire-fighting foam, de-icing fluids) are stored in various locations throughout LAX. These materials and substances are characteristically used on a routine basis in support of aircraft, GSE, and motor vehicle maintenance activities and for a range of other similar functions to operate LAX and to meet aviation safety requirements.

As noted in the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*, several sites and facilities at LAX and off-airport are known, or have the potential to contain hazardous materials and/or other regulated substances. These sites identified in federal and state databases,⁷ include known hazardous materials release sites, generators of hazardous waste(s), and underground storage tank (UST) sites. Of these, three cleanup sites are located within a half-mile radius of the Proposed Project Area: the LAX Continental Airline Maintenance Facility Site, the Continental Airlines Maintenance Facility Site, and the United Airlines Maintenance Operations Center Site. These cleanup sites, as well as a number of permitted USTs, are located outside of but near the Proposed Project Area where the feeders would connect to the midfield area of the airfield, along World Way West. The nearest site to the Proposed Project Area is the

⁷ California State Water Resources Control Board, GeoTracker website, <http://geotracker.waterboards.ca.gov/default.asp>, accessed January 24, 2018.

LAX Continental Airline Maintenance Facility Site, located just south of the proposed underground ductbanks along World Way West.

Areas of known contamination that are in the vicinity of proposed underground ductbanks consist of two locations at and adjacent to the LAX Continental Airline Maintenance Facility Site identified by the Los Angeles Regional Water Quality Control Board (RWQCB) as "Jet Fuel Plume Area" and "Area of Concern 3 (AOC-3)."⁸ The Jet Fuel Plume Area encompasses approximately 19 acres located to the southwest of the United (formerly Continental Airlines) Maintenance Facility hangars, east of Taxiway AA, and north of and beneath a portion of Taxiway C. The eastern boundary of the Jet Fuel Plume Area is located approximately 700 feet south of the proposed ductbanks along World Way West. The jet fuel release was reported in 1994 and the leaking jet fuel hydrant lines were decommissioned and replaced beginning in 1995. An interim jet fuel recovery system operated from 1994 through 2005, and a full-scale system was started in 2005 that included 221 free product recovery wells. A total of 950,000 gallons of jet fuel had been removed as of June 2015. Data indicate that the boundaries of the plume are stable. Current work at the plume location includes the continued operation of the jet fuel recovery system, pilot testing of enhanced recovery techniques, and semi-annual gauging and sampling of select wells as part of an area-wide monitoring program. The Los Angeles RWQCB is currently reviewing a Jet Fuel Operation and Maintenance Remedial Action Plan that will govern the continued operation of the recovery system and provide a long-term stability monitoring plan for the plume.

AOC-3, located approximately 550 feet south of the proposed ductbanks, has soil and groundwater contamination resulting from a release of a former underground jet fuel storage tank. From 1988 to 2013, a number of soil and groundwater investigations were performed at AOC-3, including the installation and sampling of approximately 50 soil borings and three groundwater monitoring wells. Current activities at AOC-3 include semi-annual gauging and sampling of groundwater wells as part of an area-wide monitoring program.⁹

Additionally, one permitted UST is located west of the Proposed Project Area, in the vicinity of Pershing Drive and Runway 6R-24L. Hazardous materials and cleanup sites within the vicinity of the Proposed Project area are shown on **Exhibit 3-3**.

⁸ California Water Boards, Los Angeles Regional Water Quality Control Board, *Fact Sheet: Former Continental Airlines Maintenance Facility at the Los Angeles International Airport, Soil and Groundwater Investigation and Cleanup, Jet Fuel Plume and AOC-3 Areas*, January 2016. Available: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/4682859659/FACT%20SHEET16.pdf.

⁹ California Water Boards, Los Angeles Regional Water Quality Control Board, *Fact Sheet: Former Continental Airlines Maintenance Facility at the Los Angeles International Airport, Soil and Groundwater Investigation and Cleanup, Jet Fuel Plume and AOC-3 Areas*, January 2016. Available: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/4682859659/FACT%20SHEET16.pdf.



SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 3-3



Hazardous Materials/Cleanup Sites within the Vicinity of the Proposed Project Area

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3.6.2 SOLID WASTE

There are eight major landfills and several smaller landfills currently accepting municipal solid waste in Los Angeles County. The total remaining permitted inert waste capacity in Los Angeles County was estimated to be approximately 56.3 million tons, as of December 31, 2016.¹⁰

LAWA has had a comprehensive, facility-wide recycling program to reduce solid waste generation and disposal at LAX since 1992. This program includes collection of recyclable materials generated by LAWA and within airport terminals and airfield areas; collection of materials from airlines and tenants; independent airline and tenant recycling programs; and source reduction through purchase of recycled products and reuse of materials. In 2016, LAX diverted over 3,200 tons of material from landfills and incinerators, and recycled approximately 405,360 tons of construction and demolition debris.¹¹ Solid waste that cannot be recycled is transferred to the Sunshine Canyon Landfill in Sylmar for disposal. As of December 31, 2016, Sunshine Canyon Landfill had a remaining capacity of 62 million tons, and estimated remaining life of 21 years.¹²

3.6.3 POLLUTION PREVENTION

The requirements for Permittees to develop and implement programs for stormwater management within the County of Los Angeles, included as part of the County of Los Angeles Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, are explained in greater detail in the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*. Generally, developers are required to develop a Standard Urban Stormwater Mitigation Plan (SUSMP), which serves as a model guidance document for use by builders, land developers, engineers, planners, and others in selecting post-construction Best Management Practices (BMPs) as well as to implement minimum control measures that identify modifications that address watershed priorities.

Since 1990, operators of large municipal storm sewer systems (MS4) have been regulated under NPDES permits. Effective December 28, 2012, the Los Angeles RWQCB reissued the County of Los Angeles Municipal NPDES Permit (Order No. R4-2012-0175), which supersedes Order No. 01-182 (the old MS4 Permit). This serves as the NPDES Permit for MS4 stormwater and non-stormwater discharges within the County of Los Angeles. The storm sewer systems regulated under MS4s include curbs and gutters, man-made channels, catch basins, and storm drains throughout the Los Angeles region. The Los Angeles County Flood Control District (LACFCD), the County of Los Angeles, and 85 incorporated cities therein, including the City of Los Angeles, LAX, and the entirety of the Proposed Project Area (collectively referred to as Permittees), are jointly

¹⁰ County of Los Angeles, Department of Public Works, *Countywide Integrated Waste Management Plan, 2016 Annual Report*, September 2017.

¹¹ City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2016*, https://www.lawa.org/UI/Lawa/Assets/Sustainability_LAX_files/documents/Sustainability_Report_2016.pdf, accessed January 25, 2018).

¹² County of Los Angeles, Department of Public Works, *Countywide Integrated Waste Management Plan, 2016 Annual Report*, September 2017.

covered under a single MS4 Permit (Order No. R4-2012-0175; NPDES Permit No. CAS004001) for the discharge of urban runoff to waters of the United States.

3.7 Historic, Architectural, Archaeological, and Cultural Resources

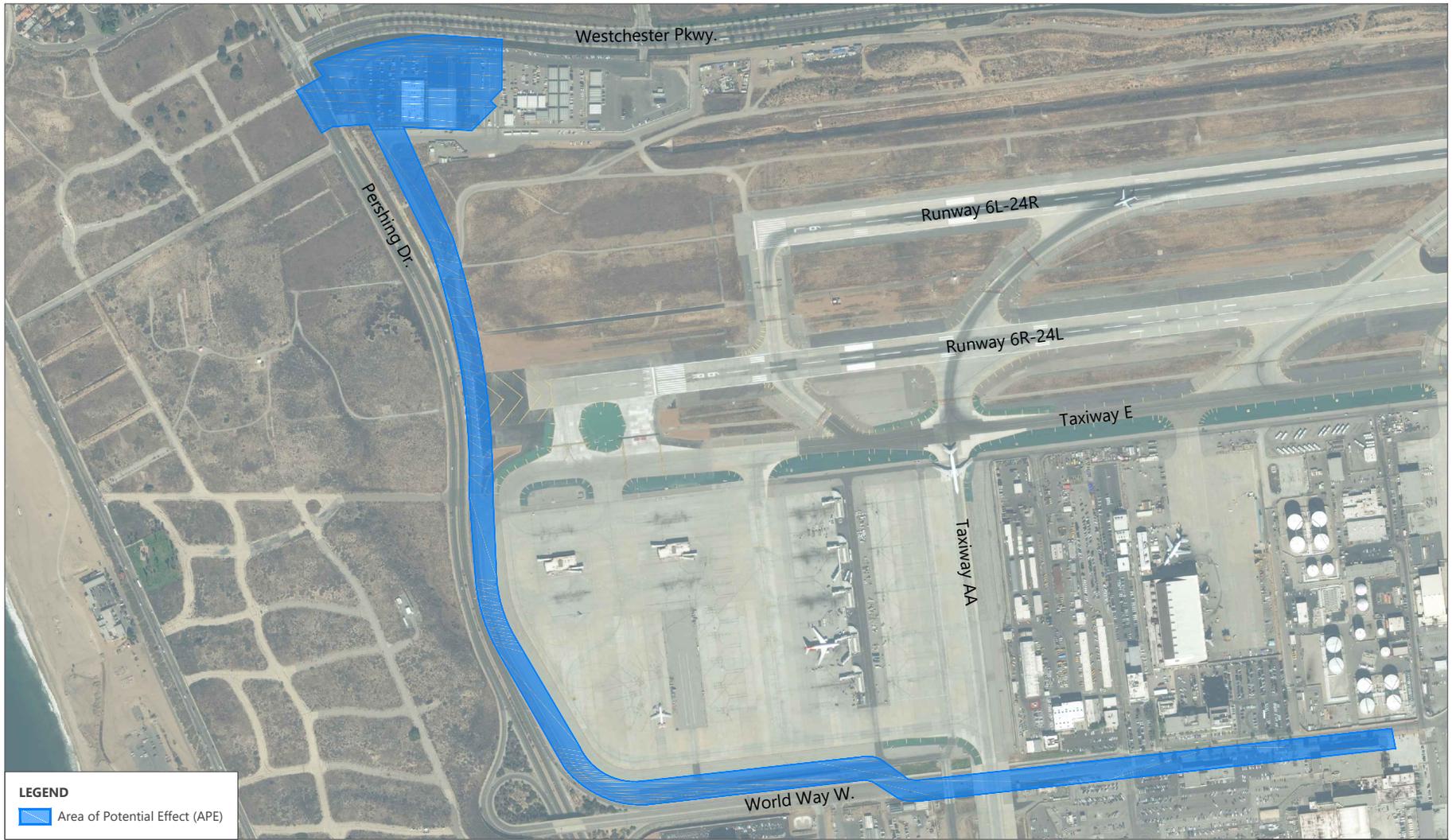
The Area of Potential Effect (APE) is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. As required by Title 36 CFR 800.4 (a)(1), the FAA established the APE, shown on **Exhibit 3-4**, and submitted it to the State Historic Preservation Officer (SHPO) for review and concurrence (see **Appendix B**). The SHPO concurred on the use of the APE for evaluation of the proposed undertaking by letter dated April 9, 2018 (see Appendix B).

Archaeological and historic architectural resources for the APE were analyzed as part of the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA* analysis. As part of that analysis, a cultural resources technical report (CRTR) was prepared, which included a cultural resources records search and literature review conducted at the South Central Coastal Information Center (SCCIC), housed at California State University, Fullerton. The SCCIC serves as a regional clearinghouse of the SHPO. The purpose of the record search was to ascertain whether any cultural resources had been previously identified within or adjacent to LAX property. These searches also included reviews of all known relevant cultural resources survey reports to ascertain the presence of previously recorded prehistoric and historic archaeological resources within a half-mile radius of the North Airfield at LAX. The results of the CRTR conducted for the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project EA* identified 19 cultural resources within a half-mile of the APE; however, none of these sites are located within the APE for the Proposed Action.

In addition, as part of the analysis conducted for the *LAX Landside Access Modernization Program EA*,¹³ an historic resources investigation survey of LAX was conducted in 2015 and 2016 to identify any potential historic resources within the Airport boundaries.¹⁴ Through research and field reconnaissance efforts, the survey concluded that two properties owned by LAWA at LAX have been previously found eligible as contributors to a historic district. Investigation of LAX-owned property through the survey identified 12 resources that are eligible for historic designation. Of those resources identified in the *Section 106 Assessment*, none are located within the APE for the Proposed Action.

¹³ City of Los Angeles, Los Angeles World Airports, *Los Angeles International Airport (LAX) Landside Access Modernization Program, Final Environmental Assessment and Final General Conformity Determination*, December 2017.

¹⁴ Historic Resources Group, Los Angeles International Airport, *Section 106 Assessment*, February 2017.



SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale); Ricondo & Associates, Inc., February 2018.

EXHIBIT 3-4



Area of Potential Effect (APE)

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Field reconnaissance surveys for the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA* identified no archaeological resources within the APE. However, five historic-period cultural resources were recorded during the cultural resources assessment: the Argo Ditch, El Manor Avenue Residential Neighborhood, Will Rogers Street Residential Neighborhood, El Manor Avenue, and Runway 6L-24R. None of these historic-period resources met the eligibility requirements for national, state, or local designation.

3.8 Land Use

Land use at LAX and within the Proposed Project Area is similar to that presented as part of the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*. The Proposed Project Area is located on the northwest corner of LAX near the intersection of Westchester Parkway and Pershing Drive. Land use to the north of the Proposed Project Area is dominated by single-family residential use with commercial uses, with the closest residences and noise-sensitive land use being approximately 600 feet to the north. Airport and airport-support uses dominate the landscape to the east and south and open space lies to the west of the Proposed Project Area. In addition to residences, the St. Bernard Catholic High School is the only other noise-sensitive resource within the vicinity of the Proposed Project Area, located approximately 1,250 feet to the northeast.

The currently adopted LAX Specific Plan zoning for the Proposed Project Area are the LAX Zone: LAX Northside Subarea and the LAX Zone: Airport Airside Subarea. The purpose of the Airport Airside Subarea is to allow for the safe and efficient operation of airport airfield activities. The LAX Northside Subarea is to provide for the redevelopment of land previously used for residential purposes with uses that are consistent with airport needs and neighborhood conditions. The LAX Northside Subarea serves as an airport buffer zone for the Westchester community. Zoning west of the Proposed Project Area is open space; north of the Proposed Project Area is LAX Northside and single and multi-family residential zoning, with mixes of land zoned for public facilities, and both limited commercial and commercial developments.¹⁵ The existing zoning in the vicinity of the Proposed Project Area is shown on **Exhibit 3-5**.

3.9 Natural Resources and Energy Supply

Within the Proposed Project Area, mining activities do not occur. The LADWP provides potable water to LAX from the following three sources: the Owens Valley and Mono Basin via the Los Angeles Aqueduct; northern California and Colorado River water purchased from the Metropolitan Water District of Southern California (MWD); and from local groundwater basins. Some wastewater within the LADWP service area is reclaimed for

¹⁵ City of Los Angeles, Zone Info and Map Access System, <http://zimas.lacity.org/> (accessed January 24, 2018).

[DRAFT]

reuse as irrigation or industrial water, or for use in seawater intrusion barriers used to protect groundwater supplies. Reclaimed water in the LAX area is provided by the West Basin Municipal Water District (WBMWD) West Basin Water Reclamation Plant (WBWRP). LADWP is responsible for supplying, treating, and distributing water within the city, serving residential, commercial, and industrial uses. The Proposed Project Area as well as the entire LAX area utilizes reclaimed water for landscape irrigation.

Electrical power within the City of Los Angeles, including LAX, is supplied by LADWP. Electricity provided by LADWP is generated by LADWP and other utilities with power generating facilities located both within the Los Angeles region and in other areas, including the co-generation systems at LAX's Central Utility Plant (CUP), located in the Central Terminal Area (CTA). As previously noted in Section 1.4.2, LAX has experienced ongoing capacity and reliability issues stemming from shared power distribution facilities and the location of LAX at the end of LADWP's existing distribution line. Additionally, power supplied to the Airport is done via five feeders from RS-N, leaving the Airport without a redundant source of power. The Southern California Gas Company (SoCal Gas) supplies natural gas to nearly all of Southern and Central California, including the City of Los Angeles and LAX. Natural gas is transported from suppliers to SoCal Gas transmission facilities for distribution to their Southern California service areas by a network of high pressure transmission lines.¹⁶

Construction materials anticipated to be required include lumber; sand and gravel; asphalt, concrete, and soil; and steel, copper, and other metals. These materials and their suppliers are located throughout the Los Angeles area and are widely available.

¹⁶ City of Los Angeles, Los Angeles World Airports, *Draft Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Section 4.13, Utilities and Service Systems, September 2016.



LEGEND

- LAX Property
- Proposed Project Area
- City of Los Angeles**
- One-Family Residential
- Multiple Residential
- Limited Commercial
- Commercial
- Public Facilities
- Los Angeles International Airport
- Open Space

SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2015 (runways, taxiways, terminal area, airport property boundary). South California Association of Governments (land use), 2008.

EXHIBIT 3-5



Existing Zoning in the Vicinity of the Proposed Project Area

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3.10 Noise and Compatible Land Use

In general, the noise setting at and around LAX, including the Proposed Project Area, is influenced primarily by aircraft operations (takeoffs and landings). In addition to aircraft activities, the noise setting around LAX is influenced by major freeways, including I-405 and I-105, and several major arterial roads, including but not limited to Imperial Highway, Westchester Parkway, Pershing Drive, and Lincoln Boulevard.

The nearest noise-sensitive area to the Proposed Project Area consists of residential uses in the Los Angeles communities of Playa del Rey and Westchester and St. Bernard Catholic High School, north of LAX. The nearest residences are approximately 600 feet to the north; St. Bernard Catholic High School is located approximately 1,250 feet to the northeast.

3.11 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

The Proposed Project Area is contained completely within LAX property and would not extend into the surrounding communities, however; the Proposed Project Area is adjacent to an additional census tract to the north across Westchester Parkway that includes housing units. The census tracts included as part of this analysis are shown on **Exhibit 3-6**. Census Tract 9800.28 contains the majority of LAX, and the entirety of the Proposed Project Area. As this Census Tract pertains to only Airport-owned land, population, housing, poverty and employment is not applicable or available and as such was not included in the census data below. **Table 3-4** shows the population and employment trends for both Los Angeles County, the City of Los Angeles and the adjoining Census Tract 2766.03 for 2010, 2016, and 2020. **Table 3-5** presents estimated income and poverty information and **Table 3-6** shows population demographic estimates for the same geographic areas in 2016.

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[Preliminary Draft for Discussion Purposes Only]



LEGEND

- LAX Property
- Proposed Project Area
- U.S. Census Tract Boundary
- 1234 U.S. Census Tract Designation

SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, airport property boundary); U.S. Census, 2013 TIGER/Line Shapefiles, accessed online: <http://www.census.gov/cgi-bin/geo/shapefiles2013/main>, March 2014.

EXHIBIT 3-6



Census Tracts within the Proposed Project Area

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Table 3-4: Population, Employment, and Households 2010-2020

ENTITY	2010 ^{1/}	2016 ^{2/}	2020 ^{3/}
POPULATION			
Los Angeles County	9,818,605	10,057,155	10,326,200
City of Los Angeles	3,792,621	3,918,872	4,017,000
Census Tract 2766.03	5,252	5,238	N/A
EMPLOYMENT			
Los Angeles County	7,602,252	8,036,077	N/A
City of Los Angeles	2,979,153	3,168,540	N/A
Census Tract 2766.03	5,015	4,827	N/A
UNEMPLOYMENT RATE			
Los Angeles County	8.7%	8.9%	N/A
City of Los Angeles	9.1%	9.2%	N/A
Census Tract 2766.03	2.4%	N/A	N/A

NOTES: N/A = Not Available.

1/ 2010 U.S. Decennial Census.

2/ 2012-2016 U.S. Census American Community Survey 5-Year Estimates.

3/ Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy - Final Growth Forecast Report.

SOURCES: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. U.S. Census Bureau, 2010 Decennial Census; Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy – Final Growth Forecast Report.

Table 3-5: Income and Poverty Data for 2016

	LOS ANGELES COUNTY	CITY OF LOS ANGELES	CENSUS TRACT 2766.03
Median Household Income ^{1/}	\$57,952	\$51,538	\$73,256
Median Family Income ^{1/}	\$64,824	\$57,055	\$115,882
Per Capita Income ^{1/}	\$29,301	\$61,564	\$29,787
Percent Individuals in Poverty ^{2/}	17.8%	21.5%	7.2%

NOTES:

1/ In 2016 inflation-adjusted dollars.

2/ Poverty level is \$12,140 for one person and an additional \$4,320 for each additional family member in the lower 48 contiguous states and Washington, D.C. (U.S. Department of Health & Human Services, <https://aspe.hhs.gov/poverty-guidelines>, accessed January 26, 2018).

SOURCE: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

Table 3-6 Population Demographics in 2016

RACES	LOS ANGELES COUNTY		CITY OF LOS ANGELES		CENSUS TRACT 2766.03	
	POPULATION	PERCENT	POPULATION	PERCENT	POPULATION	PERCENT
White alone	2,687,787	26.7%	1,115,526	28.5%	2,980	56.9%
Hispanic or Latino (of any race)	4,861,648	48.3%	1,905,577	48.6%	957	18.3%
Black or African American alone	801,182	8.0%	341,100	8.7%	373	7.1%
American Indian and Alaskan Native	18,765	0.2%	5,972	0.2%	12	0.2%
Asian	1,413,105	14.1%	446,806	11.4%	652	12.4%
Native Hawaiian and Other Pacific Islander	24,439	0.2%	5,806	0.1%	0	0.0%
Some Other Race	29,351	0.3%	13,646	0.3%	66	1.3%
Two or More Races	220,878	2.2%	84,439	2.2%	198	3.8%
Total Population	10,057,155	100%	3,918,872	100%	5,238	100%

SOURCE: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

In general, Los Angeles County and the City of Los Angeles have experienced and are projected to continue to see increases in population and employment. Los Angeles County has experienced an increase in population of approximately 2 percent from 2010 to 2016, while the City of Los Angeles has experienced a 6 percent growth rate. Similarly, employment in Los Angeles County has increase by approximately 6 percent while employment in the City of Los Angeles has increased by approximately 12 percent. Population and employment within Census Tract 2766.03 has remained relatively constant from 2010 to 2016.

According to the above estimates, persons in Census Tract 2766.03 have a higher median income as compared to both Los Angeles County and the City of Los Angeles and a lower percentage of residents in poverty. Additionally, as seen in Table 3-6, Los Angeles County and the City of Los Angeles have similar demographic characteristics, with a majority percentage of Hispanic or Latino (of any race), whereas Census Tract 2766.03 has a majority percentage of White alone.

Executive Order 13166, *Improving Access to Services for Persons with Limited English Proficiency* (August 16, 2000), requires federal agencies to provide the opportunity for Limited English Proficiency (LEP) communities to be involved in the planning process by having access to translated materials and/or translation services during meetings. Limited English speaking households are detailed below in **Table 3-7**.

Table 3-7: 2016 English Proficiency

AREA	POPULATION		POPULATION SPEAKING ENGLISH LESS THAN "VERY WELL"	
	TOTAL, 5+ YEARS OLD	NON-ENGLISH LANGUAGE SPOKEN AT HOME	NUMBER	PERCENT
City of Los Angeles	3,672,082	2,196,331	989,826	27.0%
Los Angeles County	9,421,033	5,343,196	2,344,080	24.9%
Census Tract 2766.03	5,034	1,182	409	8.1%

SOURCE: United States Census Bureau, American Community Survey 5-year estimates, <http://www.factfinder.census.gov/>, accessed January 26, 2018.

As shown, a lower percent of the population in Census Tract 2766.03 speaks English less than "very well" than in the surrounding jurisdictions of the City of Los Angeles and Los Angeles County.

Within the area surrounding LAX, four school districts exist: the Los Angeles Unified School District (USD), the El Segundo USD, the Lennox USD, and the Inglewood USD. Within the vicinity of the Proposed Project Area, there is one high school, St. Bernard Catholic High School, located approximately 1,250 feet to the northeast.

The principal freeways and roadways serving as access routes within and around the Proposed Project Area are Pershing Drive, a north-south, four-lane divided roadway, which forms the western boundary of the operational portion of LAX, and Westchester Parkway, an east-west four-lane divided arterial roadway that forms a portion of the northern boundary of LAX.

3.12 Visual Effects

The visual character in the vicinity of LAX is highly urbanized and primarily characterized by residential and commercial development on the north; hotel, airport-support, and commercial development on the east; residential development on the south; and open space on the west. Within the Proposed Project Area, the visual character is dominated by Westchester Parkway and commercial and residential development to the north, Pershing Drive and open space to the west, and airport operations and support facilities to both the east and south.

LAX and the Proposed Project Area are generally flat, although it follows the general southeastern sloping of the Los Angeles Basin in this area. The Proposed Action site is screened from public view, particularly from Westchester Parkway and Pershing Drive, through an existing earth berm. Additionally, the Proposed Project Area has been extensively disturbed by development activities, serving as the existing MSC project management office, and construction staging areas; as such its visual character is dominated by Airport facilities and uses, and paved roadways.

3.13 Water Resources

3.13.1 SURFACE WATERS

Major surface water features in the vicinity of LAX and the Proposed Project Area include the Pacific Ocean, Santa Monica Bay to the west, and Marina Del Rey to the north-northwest. The Los Angeles/El Segundo Dunes provide a natural barrier between the Proposed Project Area and Dockweiler Beach State Park and the Pacific Ocean. Portions of LAX drain to the southern portion of the Santa Monica Bay watershed.

Stormwater drainage, sanitary wastewater, and industrial wastewater collection are separate systems in the City of Los Angeles. Stormwater discharges associated with LAX are regulated by individual NPDES wastewater permits. LAX and the Proposed Project Area are within the region covered by NPDES Permit No. CA S004001 issued by the Los Angeles RWQCB. This permit prohibits non-stormwater discharges in order to reduce pollutants in urban stormwater discharges. LAX has implemented a Stormwater Pollution Prevention Plan (SWPPP) for stormwater discharges associated with industrial activities. The major surface drainage features within the boundaries of LAX consists of five stormwater Sub-Basins: Argo, Culver, Dominguez, Imperial, and Vista del Mar Sub-Basins. The Proposed Project Area discharges into the following three sub-basins:

- Argo Sub-Basin and Imperial Sub-Basin: The Argo and Imperial Sub-Basins drain west of Sepulveda Boulevard and both Sub-Basins discharge directly into Santa Monica Bay. These Sub-Basins are generally bounded by Sepulveda Boulevard to the east, the El Segundo Blue Butterfly Habitat Restoration Area to the west, Manchester Avenue to the north, and Imperial Highway to the south.
- Culver Drain Sub-Basin: The Culver Drain Sub-Basin drains in the northwestern portion of LAX and ultimately drains into Santa Monica Bay. The Culver Sub-Basin is bounded by the LAX property boundary and Westchester Parkway to the north, the Argo Sub-Basin to the east, the Imperial Sub-Basin to the south and the Vista del Mar Sub-Basin to the west.

Santa Monica Bay is the primary receiving water body for runoff from LAX. Santa Monica Bay includes 19 pollutants of concern.¹⁷ Ten of these pollutants were identified as potential stormwater runoff from LAX as explained in greater detail in the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*.

3.13.2 GROUNDWATER

LAX is located within the West Coast Groundwater Basin, which is generally bordered by I-10 to the north, Harbor Boulevard to the east, the Pacific Ocean to the west, and San Pedro Harbor to the south. The average

¹⁷ City of Los Angeles, Los Angeles World Airports, *LAX Specific Plan Amendment Study* Final EIR, Section 4.8, Hydrology/Water Quality. January 2013.

[DRAFT]

depth to groundwater under LAX is over 90 feet; however, perched groundwater conditions have been noted in the upper 60 feet at various locations at LAX.¹⁸

Groundwater in the Proposed Project Area is not located within the perched groundwater locations. The closest perched groundwater location was identified at the LAX Fuel Facilities, west of the existing Tom Bradley International Terminal in the CTA.¹⁹

Drinking water at LAX is provided by the LADWP and is distributed through the LAX transmission system. The LAX transmission system consists of a combination of several 10-, 12-, and 16-inch transmission lines that lead to a major 36- inch trunk line beneath Sepulveda Boulevard. This system connects to the overall City of Los Angeles water supply infrastructure from three connectors beneath West Westchester Parkway, South Pershing Drive, and Sepulveda Boulevard just south of Century Boulevard.

Wastewater treatment for most of the City of Los Angeles is performed at the HWRP located near the southwest portion of the LAX property, south of Imperial Highway. Wastewater generated at LAX is collected in the airport sanitary sewer system through a 21-inch main pipeline.

¹⁸ U.S. Department of Transportation, Federal Aviation Administration and Los Angeles World Airports, *LAX Master Plan Final EIS/EIR*, Technical Report 12, Earth/Geology, 2005.

¹⁹ U.S. Department of Transportation, Federal Aviation Administration and Los Angeles World Airports, *LAX Master Plan Final EIS/EIR*, Technical Report 12, Earth/Geology, 2005.

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4. Environmental Consequences

The potential environmental consequences associated with the Proposed Action and the No Action Alternatives are discussed in this section. Of the environmental categories specified in FAA Orders 1050.1F and 5050.4B, the following were evaluated as part of this EA and are documented in the following sections:

- Air Quality—Section 4.1
- Climate—Section 4.2
- Coastal Resources—Section 4.3
- Hazardous Materials, Solid Waste, and Pollution Prevention—Section 4.4
- Historic, Architectural, Archaeological, and Cultural Resources—Section 4.5
- Land Use—Section 4.6
- Natural Resources and Energy Supply—Section 4.7
- Noise and Noise-Compatible Land Use—Section 4.8
- Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks—Section 4.9
- Visual Effects—Section 4.10
- Water Resources (Surface Water and Groundwater)—Section 4.11
- Cumulative Impacts —Section 4.12

The remaining environmental impact categories specified in FAA Orders 1050.1F and 5050.4B would not be affected by the Proposed Action Alternative. These categories, identified in Section 3.2, include: Biological Resources, U.S. DOT Act Section 4(f) and Land and Water Conservation Fund Act Section 6(f) Resources, Farmlands, and Water Resources (Floodplains, Wetlands, and Wild and Scenic Rivers).

As discussed in Section 3.1.1, the Proposed Project Area was previously analyzed as part of the Detailed Study Area for the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*,¹ completed and finalized in June 2014. The information from this EA was utilized, to the extent practical, but all

¹ City of Los Angeles, Los Angeles World Airports, *Proposed Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project, Final Environmental Assessment*. June 2014.

environmental resources areas were reviewed to accurately assess impacts from the Proposed Action Alternative.

4.1 Air Quality

The preparation of air quality analyses in FAA NEPA documents is based upon the following sources: FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures*, and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*; the federal CAA, as amended by the Clean Air Act Amendment (CAAA) of 1990 and the associated regulations; and the FAA's *Aviation Emissions and Air Quality Handbook*, referred to as the FAA's Air Quality Handbook.²

The analytical recommendations and requirements described in these documents were followed in preparing the air quality assessment for the Proposed Action Alternative. FAA Order 1050.1F states that an air quality assessment prepared under NEPA should include an analysis of and conclusions regarding a proposed action's impacts on air quality and further directs that, when a NEPA analysis is needed, the proposed action should be assessed by evaluating the effects on the NAAQS. FAA Order 5050.4B further provides that, for NEPA purposes, environmental analyses must determine if the air quality impacts of any reasonable alternative would exceed the NAAQS for the time periods analyzed. LAX is located within the South Coast Air Basin; current air quality in the South Coast Air Basin and NAAQS attainment status is discussed in Section 3.3.

The CAAA require federal agencies to ensure that their actions conform to the appropriate SIP. Conformity is defined as demonstrating that a project or action conforms to the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Federally funded and approved actions at airports are subject to the U.S. Environmental Protection Agency (USEPA) General Conformity regulations. A conformity determination of the proposed action is required if the total direct and indirect pollutant emissions resulting from a project are above *de minimis* emissions threshold levels specified in the conformity regulations.

4.1.1 REGULATORY SETTING

Air quality is regulated by federal, state, and local laws. On the federal level, air quality is governed by the federal CAA administered by the USEPA in coordination with state and local governments. Additionally, air quality in California is governed by regulations under the California Clean Air Act (CCAA), administered by the California Air Resources Board (CARB) and by the regional air quality management districts. Air quality in the Los Angeles region is subject to the rules and regulations established by CARB and the SCAQMD.

The CAA requires the USEPA to establish minimum NAAQS, and assigns primary responsibility to individual states to assure compliance with the NAAQS. Areas not meeting the NAAQS, referred to as nonattainment

² U.S. Department of Transportation, Federal Aviation Administration, *Aviation Emissions and Air Quality Handbook*, Version 3, Update 1, January 2015.

areas, are required to implement specific air pollution control measures. Under the authority granted by the CAA, USEPA has established NAAQS for the following criteria pollutants: SO₂, CO, PM₁₀, PM_{2.5}, Pb, NO₂, and O₃, addressed through its precursors volatile organic compounds (VOC) and oxides of nitrogen (NO_x). O₃ is a secondary pollutant, meaning that it is formed from reactions of “precursor” compounds under certain conditions. The CAA also specifies future dates for achieving compliance with the NAAQS for areas not meeting these standards and mandates that states submit and implement a SIP. These plans must include pollution control measures that demonstrate how the standards will be met. **Table 4-1** presents the NAAQS that are currently in effect for criteria air pollutants.

The CCAA, administered by CARB, requires all air districts in the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. Table 4-1 presents the CAAQS that are currently in effect for criteria air pollutants. In addition to administering the CCAA, CARB has been granted jurisdiction to develop emission standards (subject to USEPA approval) for on-road motor vehicles, stationary sources, and some off-road mobile sources. In turn, CARB has delegated authority to the local air quality management districts to issue air quality permits and enforce permit conditions at the regional and local level.

4.1.2 METHODOLOGY

4.1.2.1 Construction Impacts

The California Emissions Estimator Model (CalEEMod) version 2016.3.1 was used to estimate the construction emissions associated with the Proposed Action Alternative. CalEEMod was originally developed for the California Air Pollution Officers Association in collaboration with the SCAQMD as a modeling tool to assist local public agencies with estimating air quality impacts from land use projects. The model estimates construction, area source, and operational emissions from a wide variety of land use development projects, such as residential neighborhoods, shopping centers, office buildings, etc. The model also identifies mitigation measures and associated emission reductions. CalEEMod calculates emissions for CO, reactive organic gases (ROG),³ NO_x, SO₂,⁴ PM₁₀, and PM_{2.5} for both on-road and off-road construction sources. The model uses the EMFAC2014 model for on-road vehicle emissions and the CARB’s OFFROAD2011 model for off-road vehicle emissions.

Detailed information regarding methodologies and assumptions are provided in **Appendix D**.

³ For purposes of this analysis, it was assumed that estimates of VOC emissions are equal to calculated emissions of ROG.

⁴ For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO₂.

Table 4-1: National and State Ambient Air Quality Standards

POLLUTANT	AVERAGING TIME	CAAQS	NAAQS	
			PRIMARY	SECONDARY
Ozone (O ₃)	8-hour	0.070 ppm (137 µg/m ³)	0.070 ppm (147 µg/m ³)	Same as Primary
	1-Hour	0.09 ppm (180 µg/m ³)	N/A	N/A
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	N/A
	1-Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	N/A
Nitrogen Dioxide (NO ₂)	Annual	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary ^{1/}
	1-Hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	N/A
Sulfur Dioxide (SO ₂) ^{2/}	Annual	N/A	0.03 ppm (80 µg/m ³)	N/A
	24-Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	N/A
	3-Hour	N/A	N/A	0.5 ppm (1300 µg/m ³)
	1-Hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	N/A
Respirable Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	N/A	N/A
	24-Hour	50 µg/m ³	150 µg/m ³	Same as Primary
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	12.0 µg/m ³	15 µg/m ³
	24-Hour	N/A	35 µg/m ³	Same as Primary
Lead (Pb)	Rolling 3-Month Average	N/A	0.15 µg/m ³	Same as Primary
	Monthly	1.5 µg/m ³	N/A	N/A
Visibility Reducing Particles	8-Hour	Extinction of 0.23 per kilometer	N/A	N/A
Sulfates	24-Hour	25 µg/m ³	N/A	N/A

NOTES:

NAAQS = National Ambient Air Quality Standards

CAAQS = California Ambient Air Quality Standards

ppm = parts per million (by volume)

µg/m³ = micrograms per cubic meter

N/A = Not applicable

mg/m³ = milligrams per cubic meter

AAM = Annual arithmetic mean

ppb = parts per billion

1/ On March 20, 2012, the USEPA took final action to retain the current secondary NAAQS for NO₂ (0.053 ppm averaged over a year) and SO₂ (0.5 ppm averaged over three hours, not to be exceeded more than once per year) (77 Federal Register [FR] 20264).

2/ On June 22, 2010, the 1-hour SO₂ NAAQS was updated and the previous 24-hour and annual primary NAAQS were revoked. The previous 1971 SO₂ NAAQS (24-hour: 0.14 ppm; annual: 0.030 ppm) remains in effect until one year after an area is designated for the 2010 NAAQS (75 FR 35520).

SOURCE: California Air Resources Board, *Ambient Air Quality Standards Chart*, May 4, 2016, Available: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, accessed January 24, 2018.

4.1.2.2 Operational Impacts

Operational emissions for the No Action and Proposed Action Alternatives are discussed qualitatively, as neither alternative would cause a change in aircraft operations or routes, or surface traffic and, therefore, would result in no change to aircraft or vehicle emissions. The Proposed Action Alternative would also not increase the demand for and use of electricity. The addition of the LADWP Control Room would account for a negligible increase in criteria pollutant emissions from stationary sources.

4.1.3 SIGNIFICANCE THRESHOLDS

As provided on Exhibit 4-1 of FAA Order 1050.1F, an action would cause significant air quality impacts if pollutant concentrations were to exceed one or more of the NAAQS, as established by the USEPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

Additionally, while not a significance threshold for NEPA, the USEPA has promulgated the General Conformity Rule in 1993 to implement the conformity provision of Title I, 176(c)(1) of the *CAA Amendments of 1990*. Section 176(c)(1) requires that the federal government not engage in, support, or provide financial assistance for licensing, permitting, or approving any activity not conforming to an approved CAA implementation plan. The approved implementation plan could be a Federal, State, or Tribal Implementation Plan. Revisions to the General Conformity Rule are codified in Title 40 CFR Parts 51 and 93, Subpart W, *Revisions to the General Conformity Regulations, Final Rule* (April 2010). The General Conformity Rule applies to all federal actions except for certain highway and transit programs. The latter must comply with the conformity requirements for Transportation Plans in Title 40 CFR Part 93, Subpart A, *Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws*.

The General Conformity Rule is designed to ensure that air pollutant emissions associated with federal actions do not prevent achievement of state and federal air quality goals. General Conformity refers to the process of evaluating federal plans, programs, and projects to determine and demonstrate that they meet the requirements of the CAA and applicable SIP. The need for a detailed conformity determination under the General Conformity Rule is required where a comparison of the changes in project-related air pollutant emissions (Proposed Action Alternative minus the No Action Alternative) exceed *de minimis* thresholds established in the Rule.

The South Coast Air Basin is currently designated non-attainment of NAAQS for the following pollutants: O₃, Pb, and PM_{2.5}. Additionally, the Basin is designated as a maintenance area for PM₁₀, CO, and NO₂. Applicable *de minimis* thresholds for criteria pollutants and their precursors are presented in **Table 4-2**.

Table 4-2: General Conformity *De Minimis* Thresholds

NAAQS	ATTAINMENT STATUS (SEVERITY) ^{1/}	POLLUTANT(S)	<i>de minimis</i> THRESHOLD (TONS PER YEAR)
Carbon Monoxide (CO)	Attainment - Maintenance	CO	100
Fine Particulate Matter (PM _{2.5})	Nonattainment – Serious ^{2/}	PM _{2.5}	70
Lead (Pb)	Nonattainment	Pb	25
Nitrogen Dioxide (NO ₂)	Attainment - Maintenance	NO ₂	100
Ozone (O ₃)	Non-attainment – Extreme ^{3/}	NO _x	10
		VOC	10
Respirable Particulate Matter (PM ₁₀)	Attainment - Maintenance	PM ₁₀	100

NOTES:

1/ Status as of June 17, 2016.

2/ Classified as moderate nonattainment for 2012 NAAQS and serious nonattainment for 2006 NAAQS. Thus, for conformity purposes the serious nonattainment *de minimis* threshold will be used.

3/ The South Coast Air Basin had not attained the 1-hour O₃ standard by the time it was replaced with the 1997 8-hour O₃ standard. Therefore, the State Implementation Plan for the South Coast must still contain demonstrations that the 1-hour O₃ standard will be attained.

SOURCES: General Conformity Rule (40 CFR Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*); USEPA; U.S. Environmental Protection Agency, "Green Book Nonattainment Areas," available: <https://www.epa.gov/green-book> (accessed January 2018).

4.1.4 CONSTRUCTION IMPACTS

4.1.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area. Therefore, no emissions inventory is required for the No Action Alternative and no significant construction air quality impacts are anticipated.

4.1.4.2 Proposed Action Alternative

Construction of the Proposed Action Alternative would include site preparation, grading, paving, and structure construction. These activities would require the use of heavy trucks, excavating and grading equipment, material loaders, dozers, and paving equipment. Emissions would occur as a result of these activities from: (1) engine exhaust from construction worker vehicle trips to and from the site, (2) trips by trucks hauling raw materials, supplies, and fill material and the operation of construction equipment at the site, and (3) fugitive dust emissions during ground-disturbing activities, materials handling, and equipment use on unimproved surfaces. Construction-related activities are anticipated to occur in 2019, 2020, 2021, and 2022.

The emissions inventory for construction activities associated with the Proposed Action Alternative is presented in **Table 4-3**. The construction-related pollutant emissions were compared against the General Conformity *de minimis* thresholds. Compliance with the General Conformity Rule is based on a comparison of

the changes in project-related air emissions with the *de minimis* thresholds, in accordance with FAA Order 1050.1F. As noted in the FAA Order 1050.1F Desk Reference,⁵ if a project's emissions are less than the *de minimis* levels, then the federal action is considered to be too small to adversely affect the air quality status of the area. Because none of the peak annual emissions associated with construction of the Proposed Action Alternative would exceed the *de minimis* thresholds, construction of the Proposed Action Alternative would not have an adverse effect on air quality.

Table 4-3: Proposed Action Alternative Construction Criteria Pollutant Emissions Inventory

ESTIMATED ANNUAL EMISSIONS OF CRITERIA POLLUTANTS (TONS/YEAR)						
CONSTRUCTION YEAR	CO	VOC	NO _x	SO ₂ ^{1/}	PM ₁₀	PM _{2.5}
2019	3.35	0.15	2.93	0.01	1.07	0.54
2020	0.44	0.01	0.07	0.00	0.02	0.00
2021	0.76	0.02	0.16	0.00	0.01	0.01
2022	0.13	0.04	0.07	0.00	0.01	0.00
Peak Annual Emissions	3.35	0.15	2.93	0.01	1.07	0.54
<i>de minimis</i> Threshold	100	10	10	100	100	70
Significant?	No	No	No	No	No	No

NOTE:

1/ For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO₂.

SOURCE: Ricondo & Associates, Inc., February 2018.

4.1.5 OPERATIONAL IMPACTS

4.1.5.1 No Action Alternative

Under the No Action Alternative, no change in Airport operations would occur as compared with existing conditions. Therefore, no impacts from the No Action Alternative would occur.

4.1.5.2 Proposed Action Alternative

Development of the Proposed Action Alternative would result in the operation of the RS-X and associated electrical infrastructure. The Proposed Action Alternative would not result in any changes to the number or size of aircraft operating at LAX, nor would it result in a substantial increase in vehicle usage or traffic, as access to the site is anticipated to occur once per week for maintenance purposes. Additionally, the Proposed Action's intended purpose is to provide increased power capacity and reliability, and to provide the Airport with a redundant, dedicated source of power, which would not result in a change in electricity demand or use or subsequent associated emissions generated at the Airport. Construction of the facility would result in a

⁵ U.S. Department of Transportation, Federal Aviation Administration, *1050.1F Desk Reference*, July 2015, p. 1-8.

slight increase in conditioned space at LAX, which would result in a negligible increase in operational stationary source emissions. However, operation of the RS-X itself is not anticipated to create any substantial emissions. Overall, a very slight increase in emissions would be anticipated from the Proposed Action Alternative as compared with the No Action Alternative. Operation of the Proposed Action would not have significant impacts to air quality.

4.2 Climate

4.2.1 REGULATORY SETTING

Research has shown there is a direct correlation between fuel combustion and GHG emissions. GHGs, known to trap heat in the earth's atmosphere, include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, and fluorinated gases.⁶

4.2.2 METHODOLOGY

Consistent with the air quality analysis, short-term increases in GHG emissions would be expected during construction of the Proposed Action Alternative. Therefore, an inventory of GHG emissions associated with construction of the Proposed Action Alternative was conducted using the same methodology as the air quality analysis (see Section 4.1.2). This analysis addresses both direct and indirect GHG emissions, which are defined as follows:

- Direct Emissions: Direct sources of GHG emissions include on-Airport stationary sources, including heating/cooling; operational changes to surface traffic activity and surface traffic flows within the Airport area; construction and operation equipment; construction haul trips; and construction worker commute trips.
- Indirect Emissions: Indirect sources of GHG emissions include the consumption of purchased electricity, solid waste disposal, water usage, and wastewater treatment.

GHGs of concern from construction sources are primarily CO₂, CH₄, and N₂O. This analysis focuses on CO₂ emissions and others are reported in terms of CO₂e.

4.2.3 SIGNIFICANCE THRESHOLDS

The FAA has not established a significance threshold for climate and GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions.

⁶ U.S. Environmental Protection Agency, Overview of Greenhouse Gases, <http://www3.epa.gov/climatechange/ghgemissions/gases.html> (accessed January 23, 2018).

4.2.4 CONSTRUCTION IMPACTS

4.2.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area; therefore, the No Action Alternative would have no construction-related GHG emissions.

4.2.4.2 Proposed Action Alternative

GHG emissions would temporarily increase during construction of the Proposed Action Alternative over the 3-year construction period, anticipated to begin in early 2019 and be completed by early 2022. Annual GHG emissions, based on the methodology documented in Section 4.1.2, are presented in **Table 4-4**.

Table 4-4: Proposed Action Construction Greenhouse Gas Emissions

YEAR	MT CO ₂ e
2019	1,041
2020	60
2021	122
2022	32
Total	1,255

NOTE:

MT CO₂e—metric tons of CO₂ equivalent

SOURCE: Ricondo & Associates, Inc., March 2018.

Direct emissions associated with construction of the Proposed Action Alternative would be temporary in nature and would cease upon completion of construction. As noted in Section 2.6, LAWA has implemented a wide range of actions designed to reduce temporary, construction-related air pollutant and GHG emissions from its ongoing construction program and has established aggressive construction emissions reduction measures, particularly with regard to requiring construction equipment and heavy-duty trucks to be newer models that have low-emission engines or be equipped with emissions control devices.

To achieve this commitment, LAWA has developed standard control measures which have been incorporated into the Proposed Action Alternative to reduce or avoid GHG emissions. These measures aim to reduce fugitive dust emissions and exhaust emissions related to construction, as well as transportation- and operations-related emissions through trip reduction, clean vehicle fleets, and energy conservation. Additional construction emission control measures LAWA applies to all projects, include: stationary point source controls, a diesel emissions reduction plan, vehicle idling and siting limitations, and administrative controls.

Construction of the Proposed Action Alternative would only slightly contribute to global climate change, accounting for less than one-hundredth of a percent of U.S. GHG emissions. To ensure that GHG emissions

associated with construction are minimized to the extent possible, LAWA will continue to implement emission reduction measures.

4.2.5 OPERATIONAL IMPACTS

4.2.5.1 No Action Alternative

Under the No Action Alternative, existing sources of GHG emissions within the Proposed Project Area and its vicinity would continue.

4.2.5.2 Proposed Action Alternative

As discussed in Section 4.1.5, the Proposed Action Alternative would not result in any changes to the number or size of aircraft operating at LAX, nor would it result in a substantial increase in vehicle usage or traffic, as access to the site is anticipated to occur once per week for maintenance purposes. Additionally, the Proposed Action's intended purpose is to provide increased power capacity and reliability, and to provide the Airport with a redundant, dedicated source of power, which would not result in a change in electricity demand or use or subsequent associated GHG emissions generated at the Airport. Construction of the facility would result in a slight increase in conditioned space at LAX, which would result in a negligible increase in operational stationary source GHG emissions. However, the operation of RS-X itself is not anticipated to create any substantial GHG emissions. Overall, a very slight increase in emissions would be anticipated from the Proposed Action Alternative as compared with the No Action Alternative.

4.3 Coastal Resources

4.3.1 REGULATORY SETTING

The Coastal Zone Management Act (CZMA) of 1972 ensures effective management, beneficial use, protection, and development of the coastal zone. Coastal zone management programs, prepared by states according to guidelines issued by the National Oceanic and Atmospheric Administration (NOAA), are designed to address issues affecting coastal areas. Within California, coastal resources are managed through the CCA, which is California's coastal zone management program. The CCA grants authority to the CCC to regulate development and related resource-depleting activities within a defined coastal zone.

In addition, the Coastal Barrier Resources Act (CBRA) designates certain undeveloped coastal areas for inclusion into the Coastal Barrier Resources System (CBRS), which precludes federal subsidies for development in sensitive coastal areas. As defined by the CBRA, there are no coastal barriers along the Pacific Coast.

4.3.2 METHODOLOGY

Federal agencies must determine which of their activities affect any coastal use or resource of states with approved management programs. Effects are determined by looking at reasonably foreseeable direct and indirect effects on any coastal use or resource. If the federal agency determines that the activity has no effects on any coastal use or resource and a negative determination under Title 15 CFR Part 930.35, *Negative*

Determinations for Proposed Activities, is not required, then the federal agency is not required to coordinate with state agencies under Section 307 of the CZMA.

The CCA coordinates federal, state, and local programs for the management of California's coastal resources. Under provisions of the CZMA, any federal activity that has the potential to impact California's coastal resources must be consistent with the goals and policies of the CCA.

4.3.3 SIGNIFICANCE THRESHOLDS

No specific thresholds regarding impact significance have been established in FAA Order 1050.1F. Although the FAA has not established specific thresholds for coastal resources, it follows the regulations set forth in Title 15 CFR Part 930, *Federal Consistency with Approved Coastal Management Programs*. A federal action is subject to the CZMA federal consistency requirements if the action will affect a coastal use or resource, in accordance with NOAA's regulations.

CZMA promotes consistency of federal actions with the CCA. The FAA has indicated that a proposed action or its alternatives cannot be approved if a state with an approved CZMP raises an objection unless other specified actions are taken.

4.3.4 CONSTRUCTION IMPACTS

4.3.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area. Therefore, no construction would occur within the California Coastal Zone and no certification and/or determination from the CCC would be required.

4.3.4.2 Proposed Action Alternative

The construction of the Proposed Action Alternative would require a new electrical connection from the RS-X to the existing 230 kV LADWP powerline and underground electrical vault located underneath the western lanes of Pershing Drive, which is located within the California Coastal Zone. Pershing Drive lies on the eastern boundary of the coastal zone; the only work to be conducted within the coastal zone would be installing underground connections to the existing electrical vault underneath the Pershing Drive lanes. Disturbance within the coastal zone would be limited to the median of Pershing Drive; no other activities or disturbance would occur within the coastal zone boundary. Construction activities would be short-term in duration and would not result in impacts to wetlands, the clearing of vegetation, or an increase in impervious surfaces. Additionally, all work within the coastal zone would be conducted in previously disturbed areas within the right-of-way of Pershing Drive. It is not anticipated that construction activities would cause erosion, increased turbidity in water bodies, or sedimentation, nor would it add any above-ground structures or change in land use within the coastal zone. Therefore, construction impacts to coastal resources from the Proposed Action Alternative would not be significant when compared to the No Action Alternative.

4.3.5 OPERATIONAL IMPACTS

4.3.5.1 No Action Alternative

Under the No Action Alternative, existing operations within the Proposed Project Area, which includes the western portion of Pershing Drive, would continue as a roadway and would be maintained and operated as such. Therefore, the No Action Alternative is not subject to review of consistency with the coastal zone management plan. No impacts to the coastal zone or coastal resources are anticipated under the No Action Alternative.

4.3.5.2 Proposed Action Alternative

Operational impacts to coastal resources are not anticipated with the Proposed Action Alternative. The Proposed Action would not include construction of any permanent structures, nor would it result in a change of land use within the coastal zone. Therefore, it is not anticipated that the Proposed Action Alternative would increase pollution, increase coastal population, or generate erosion on coastal resources when compared to the No Action Alternative.

Since portions of the Proposed Project Area are within the coastal zone, any federal activity affecting the coastal zone must be consistent with the CCA. "Federal Consistency" is the requirement that federal actions that affect any land, water, or natural resource of a state's coastal zone must be consistent with the enforceable policies of the state. As there would be no change in use and no projected coastal resource impacts, the Proposed Action Alternative would be consistent with the CCA.

4.4 Hazardous Materials, Solid Waste, and Pollution Prevention

4.4.1 REGULATORY SETTING

4.4.1.1 Hazardous Materials and Waste

At the federal level, hazardous materials are controlled by a number of federal laws and regulations, most of which are promulgated by the USEPA. The two statutes most applicable to airport projects are the Resource Conservation and Recovery Act (RCRA, as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended (also known as Superfund). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for cleanup of any release of a hazardous substance (excluding petroleum) in the environment.

In addition to RCRA and CERCLA, the Hazardous Materials Transportation Act (HMTA) and the Emergency Planning and Community Right to Know Act (EPCRA) serve as additional requirements governing the storage, use, and transportation of hazardous and other regulated materials from their time of origin to their ultimate disposal. These regulations also govern the recovery and cleanup of environmental contamination resulting from the accidental or unlawful release of hazardous materials and substances. Additional regulations related to hazardous materials include:

- Clean Water Act (CWA)—Regulates discharges and spills of pollutants (including hazardous materials)

to surface and groundwater.

- Safe Drinking Water Act (SDWA)—Regulates discharges of pollutants to underground aquifers.
- Clean Air Act (CAA)—Regulates discharges of air emissions (including hazardous air pollutants) to the ambient (i.e., outside) air.

At the state level, the agency with similar authority to the USEPA over hazardous materials is the California Environmental Protection Agency (CalEPA). Specifically, the CalEPA Department of Toxic Substances Control (DTSC) is responsible statewide for matters concerning the use, storage, transport and disposal of hazardous materials. Similarly, the California Department of Resources Recycling and Recovery (CalRecycle) is responsible for the management of solid wastes and the CalEPA Office of Environmental Health Hazard Assessment (OEHHA) is involved in the evaluation of risks to public health and the environment posed by hazardous materials and environmental contamination. Importantly, CalEPA delegates much of the enforcement responsibility for hazardous materials to local governments under the Certified Unified Program Agency (CUPA) program.⁷

Locally, the City of Los Angeles Fire Department (LAFD) serves as the CUPA; however, the Los Angeles County Fire Department (LACFD) is responsible for regulating hazardous materials, hazardous wastes, and USTs. The Los Angeles County Environmental Health Services Department (LACEHSD) and the Los Angeles Department of Building and Safety (LADBS) are designated as the Local Enforcement Agencies (LEAs) by CalRecycle and are responsible for enforcing regulations pertaining to solid waste disposal units (i.e., landfills, old burn dumps, etc.). The Los Angeles RWQCB also has jurisdiction over the management of potential sources of surface and groundwater contamination such as the cleanup of UST and above-ground storage tank (AST) spill sites. Finally, the SCAQMD is involved in the assessment of health and environmental hazards associated with toxic (or hazardous) air pollutants.

4.4.1.2 Solid Waste

The USEPA regulates household, industrial, and manufacturing solid wastes under RCRA. Subtitle D of RCRA establishes the Solid Waste Program, which encourages states to develop comprehensive plans to manage nonhazardous solid waste, sets criteria for municipal solid waste landfills, and prohibits the open dumping of solid waste. CalRecycle regulates solid waste facilities throughout the State of California.

The Los Angeles City Council Ordinance No. 181519 requires that construction and demolition waste generated within the City of Los Angeles be taken to a City-certified construction demolition waste processing facility.⁸ Additionally, the California Integrated Waste Management Act of 1989 requires each county to prepare and administer a Countywide Integrated Waste Management Plan. The Los Angeles County

⁷ California Environmental Protection Agency, *Unified Program*, <http://www.calepa.ca.gov/cupa/>, accessed January 24, 2018.

⁸ City of Los Angeles, Ordinance No. 181,519, January 6, 2011, http://clkrep.lacity.org/onlinedocs/2009/09-3029_ord_181519.pdf, accessed January 25, 2018.

Department of Public Works (LACDPW) is responsible for preparing and administering the Los Angeles County Countywide Integrated Waste Management Plan.

4.4.1.3 Pollution Prevention

Pollution Prevention is controlled on the federal level by the CWA through the Spill Prevention, Control, and Countermeasure (SPCC) Regulation and the NPDES Program. The USEPA is responsible for the administration and enforcement of SPCC Plan requirements. The requirements are intended to prevent oil from reaching navigable waters through measures to prevent, control, and mitigate oil spills.

Section 402 of the CWA creates the NPDES regulatory program. To comply with Section 402(p) of the CWA, the USEPA developed a two-phase NPDES stormwater program to address stormwater discharges from industrial sources and municipalities. The Los Angeles metropolitan area and LAX are currently regulated under Phase I of the NPDES Stormwater Program, which applies to large and medium MS4. MS4 Permits require each regulated entity to develop a stormwater management program designed to prevent harmful pollutants from impacting water quality via stormwater runoff. The MS4 Permit establishes the waste discharge requirement for stormwater and non-stormwater discharges within the watersheds of Los Angeles County.

Pursuant to the CWA, the State Water Resources Control Board (SWRCB) issued a statewide NPDES general permit for stormwater discharges associated with construction activities.⁹ Under this permit, construction activity that results in soil disturbances of at least 1-acre is required to obtain an individual NPDES permit or coverage under the Statewide General Construction Activity Stormwater Permit (GCASP). This requirement applies to both private and public agency construction projects, including projects undertaken at LAWA. Construction activities subject to this GCASP include clearing, grading, and disturbances to the ground such as stockpiling or excavation. Compliance involves preparing and implementing a site-specific SWPPP to minimize pollution from construction activities. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges.

The NPDES permit programs in California are administered by the SWRCB and by the nine RWQCBs that issue NPDES permits and enforce regulations within their respective region.¹⁰ Pursuant to the CWA, the SWRCB re-issued a statewide Industrial Stormwater General Permit effective on July 1, 2015.¹¹ The Permit regulates the discharge of 10 categories of industrial activity, including electrical equipment and components. The General Industrial Permit requires the implementation of the Best Available Technology Economically Achievable

⁹ U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System, *General Permit for Discharges from Construction Activities*, effective February 16, 2017 through February 16, 2022.

¹⁰ LAX is located within the jurisdiction of the Los Angeles RWQCB.

¹¹ U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System, *General Permit for Storm Water Discharges Associated with Industrial Activities*, effective July 1, 2015 through June 30, 2020.

(BAT), and the development of an Industrial SWPPP and a monitoring plan. Through the Industrial SWPPP, sources of pollutants are to be identified and the means to manage the sources in order to reduce stormwater pollution are described.

4.4.2 METHODOLOGY

The Proposed Action Alternative and the No Action Alternative were evaluated for the potential to result in impacts associated with the generation, use, and/or disposal of hazardous materials and municipal solid waste. Measures to prevent pollution were also identified. To identify the potential for impacts, the Proposed Action Alternative and No Action Alternative were reviewed to determine whether either would:

- Violate hazardous waste or solid waste management laws and regulations;
- Affect a contaminated site;
- Produce an appreciably different quantity or type of hazardous waste;
- Produce an appreciably different quantity or type of solid waste that would exceed local capacity; or
- Adversely affect human health and the environment.

The findings of these evaluations were compared to the appropriate regulatory guidelines, factors considered in evaluating the context and intensity of potential environmental impacts, and other appropriate criteria. These include the federal, state, and local regulations discussed above. Relevant safeguards and precautions, and pollution prevention, that would be undertaken to avoid or minimize potential environmental impacts associated with hazardous materials and/or environmental contamination during the construction and operational phases of the Proposed Action Alternative were also evaluated.

4.4.3 SIGNIFICANCE THRESHOLDS

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. However, based on guidance in FAA Order 1050.1F, the FAA has identified factors to consider in evaluating the context and intensity of potential environmental impacts for hazardous materials, solid waste, or pollution prevention. These factors are whether an action would:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including, but not limited to, a site listed on the National Priorities List [NPL]);
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

4.4.4 CONSTRUCTION IMPACTS

4.4.4.1 No Action Alternative

Under the No Action Alternative, no construction activities or other subsurface activities that could encounter hazardous materials or environmental contamination would occur within the Proposed Project Area; therefore, the No Action Alternative would not affect a contaminated site, involve the use of hazardous materials, or generate pollution or hazardous or solid waste that would require storage and management.

4.4.4.2 Proposed Action Alternative

During construction of the Proposed Action Alternative, hazardous materials (i.e., fuel, waste oil, solvents, paint, and other hydrocarbon-based products) would be used in quantities that are typical in the construction industry. All hazardous materials utilized during construction of the Proposed Action Alternative would be stored, labeled, and disposed of in accordance with federal, state, and local regulations, as well as the LAWA protocol in place for handling, storage, and treatment of hazardous materials encountered during construction.

Under the Proposed Action Alternative, construction activities would include demolition, excavation and grading activities associated with the RS-X and associated electrical infrastructure. Excavation for the RS-X would occur to a maximum depth of 30 feet, while that for the electrical ductbank would occur to a maximum depth of 7 feet. As discussed in Section 3.6.1, there are two areas of known contamination, associated with the former Continental Airlines Maintenance Facility, that are in the vicinity of proposed underground ductbanks: "Jet Fuel Plume Area" and "Area of Concern 3 (AOC-3)." The eastern boundary of the Jet Fuel Plume Area is located approximately 700 feet south of the proposed ductbanks along World Way West. AOC-3, located approximately 550 feet south of the proposed ductbanks, has soil and groundwater contamination resulting from a release of a former underground jet fuel storage tank. Due to the distance of the Jet Fuel Plume Area and AOC-3 from the Proposed Action Area, and given that construction of the ductbank along World Way West would not involve dewatering, contamination from the former Continental Airlines Maintenance Facility Jet Fuel Plume Area and AOC-3 would be unlikely to be encountered during construction of the Proposed Action Alternative. Construction of the Proposed Action Alternative has the potential to affect previously unknown contaminated soil and produce a different quantity or type of hazardous waste. Prior to initiating construction, LAWA or its contractor would conduct a pre-construction evaluation to determine if the proposed construction would interfere with existing soil or groundwater remediation efforts. If remediation is required LAWA or its contractor would work to ensure that, to the extent possible, remediation is completed prior to the construction. As such, the potential for hazardous or contaminated materials to be encountered during construction activities is not anticipated to be significant when compared to the No Action Alternative. Additionally, no NPL sites are located within or in the vicinity of the Proposed Project Area.

Solid waste generated during construction stemming from excavation, the removal of existing surface materials and the demolition of existing trailers associated with the MSC Project Management Office would be disposed of in accordance with all applicable federal, state, and local laws and regulations, including Los Angeles City Ordinance No. 181519. Construction of the Proposed Action Alternative would not produce an appreciably different quantity or type of solid waste that would exceed local capacity. Any other debris that would potentially include contaminated soils would be disposed at an off-site facility approved for

contaminated materials and, as such, no significant impacts to solid waste would occur when compared to the No Action Alternative.

As noted above, the use of hazardous materials during construction of the Proposed Action Alternative would be in quantities that are typical of the construction industry. In accordance with the NPDES Permit and General Permit, a site-specific construction SWPPP would be prepared for construction activities associated with the Proposed Action Alternative, with the goal of identifying the sources of sediment and other pollutants that affect the quality of stormwater discharges and describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater, as well as non-stormwater discharges. Adherence to the site-specific SWPPP and implementation of standard BMPs during construction would assure that discharges of pollutants of concern to a receiving water body by surface water runoff would be minimized, and would not be expected to exceed applicable water quality standards or contaminate the public drinking water supply.

The Proposed Action Alternative implementation would increase construction hazardous materials use and generation during routine fueling and maintenance. This increase in use would increase the chances of a spill or release of substances that could result in contamination of soil or groundwater. As noted above, the handling and storage of hazardous substances are stringently regulated, as are releases of hazardous materials, including emergency response and cleanup requirements. Additionally, LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would ensure specific procedures for handling hazardous materials. This includes identifying risks, monitoring site conditions, implementing BMPs, spill prevention control measures, emergency response procedures, and notification requirements in the event of a spill. Compliance with applicable regulations would ensure that spills and releases would not create a hazard to the public or the environment, and would not result in the potential contamination of soil or groundwater. Therefore, impacts associated with contamination of soil or groundwater due to spill or release would not be significant when compared to the No Action Alternative.

4.4.5 OPERATIONAL IMPACTS

4.4.5.1 No Action Alternative

Under the No Action Alternative, existing operations would remain and would not include the elements proposed under the Proposed Action Alternative. LAWA would continue to comply with existing hazardous materials regulations in place. Solid waste generation would not change in the Proposed Project Area under the No Action Alternative, and the RS-X site would continue to be utilized by LAWA for construction staging/management. No significant impacts related to pollution, hazardous materials or solid waste is anticipated.

4.4.5.2 Proposed Action Alternative

The Proposed Action Alternative would include construction of the RS-X and associated electrical infrastructure. Implementation of the Proposed Action Alternative would not cause a change in aircraft operations or routes. Therefore, there would not be a significant increase in use of hazardous materials. Operational solid and hazardous waste generation would be comparable to the No Action Alternative. Solid and hazardous waste would continue to be recycled, managed, and disposed of in the same manner as under

the No Action Alternative. Pollution prevention systems and management procedures would also effectively stay the same. As such, operations of the Proposed Action Alternative would not result in any impacts related to hazardous materials, solid waste, or pollution prevention.

4.5 Historic, Architectural, Archaeological, and Cultural Resources

4.5.1 REGULATORY SETTING

Historic, architectural, archaeological, and cultural resources encompass a range of sites, properties, and physical resources relating to human activities, society, and cultural institutions. Such resources include past and present expressions of human culture and history in the physical environment, such as prehistoric and historic archaeological sites, structures, objects, and districts, which are considered important to a culture or community. Historic, architectural, archaeological, and cultural resources also include aspects of the physical environment, namely natural features and biota, that are a part of traditional ways of life and practices and are associated with community values and institutions. Numerous laws and regulations require that possible effects on these resources be considered during the planning and execution of federal actions. These laws and regulations stipulate a process of compliance, define the responsibilities of the federal agency proposing the actions, and prescribe the relationships among involved agencies. NEPA directs federal agencies to assess the environmental impacts of proposed actions, including impacts to historic, architectural, archaeological, and cultural resources.

The primary federal laws that pertain to the treatment of cultural resources are:

- The National Historic Preservation Act (NHPA) establishes the National Register of Historic Places (NRHP), and Section 106 of the NHPA requires federal agencies to consider whether proposed activities have the potential to have an adverse effect on historic properties that are already listed, determined eligible, or not yet evaluated under the NRHP criteria. Properties that are either listed in or eligible for listing in the NRHP are provided the same measure of protection under Section 106. Federal agencies are required to consider the effects of proposed undertakings on historic properties through consultation with the SHPO and Tribal Historic Preservation Officers (THPOs).
- The American Indian Religious Freedom Act requires federal agencies to consult with Native American groups concerning federal actions that may affect sacred sites.
- The Archeological and Historic Preservation Act provides for the preservation of historical and archaeological data that might otherwise be destroyed or irreparably lost due to a federal action.
- The Native American Graves Protection and Repatriation Act addresses the disposition of certain Native American cultural items, including human remains, and governs the inadvertent discovery of Native American cultural items on federal and tribal lands.

4.5.2 METHODOLOGY

The methods for assessing potential impacts to historic, architectural, archaeological, and cultural resources outlined in FAA Order 1050.1F include (1) defining the APE that encompasses the direct or indirect areas of influence for the proposed project, which is documented in Section 3.7; (2) identifying and assessing any

historic properties or resources present; and (3) determining whether the resources, if any, are on or eligible for listing on the NRHP as set forth in Title 36 CFR 800.4(b), *Identification of Historic Properties*. To determine whether any historic, architectural, archaeological, or cultural resources were present, prior survey reports for the APE were evaluated.

4.5.3 SIGNIFICANCE THRESHOLDS

The FAA has not established a significance threshold that is generally applicable for historic, architectural, archaeological, and cultural resources. Consistent with Section 106 regulations, the FAA's Section 106 handbook indicates that FAA would determine that the effect of an undertaking is *adverse* if it alters any of the characteristics that qualify the historic property for inclusion in the NRHP in a manner that diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.¹²

If the potential for an adverse effect on a cultural resource is identified, the effects of the action are evaluated and determined through the Section 106 consultation process with the SHPO and THPOs.

4.5.4 CONSTRUCTION IMPACTS

4.5.4.1 No Action Alternative

Under the No Action Alternative, no construction activities or ground-disturbance activities would occur within the Proposed Project Area. Therefore, historic, architectural, archaeological, and cultural resources would not be affected under the No Action Alternative.

4.5.4.2 Proposed Action Alternative

Construction of the No Action Alternative would occur within an urbanized area that has been subject to disturbance by Airport operations and development. No archaeological or cultural resources have been identified in the APE per a review of the CRTR associated with the *Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*, nor within the *Section 106 Assessment for the LAX Landside Access Modernization Program EA*.

The Proposed Action Alternative would be required to adhere to LAWA's LAX Archaeological Treatment Plan (ATP), which contains procedures for the handling of any unanticipated discoveries. Prior to initiation of any project-related grading or excavation activities, LAWA would retain an on-site Cultural Resource Monitor (CRM), as defined in LAWA's ATP, who will determine if the Proposed Action Alternative 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 (i.e., areas where project-related excavation extends into re-deposited fill or other previously disturbed soils are considered unlikely to contain/yield notable cultural resources and, therefore, do not require monitoring). LAWA would retain an archaeologist to monitor excavation activities in native or virgin soils in accordance with the detailed monitoring procedures and other

¹² Title 36 Code of Federal Regulations (CFR) Part 800, *Protection of Historic Properties*, incorporating amendments effective August 5, 2004.

procedures outlined in the ATP regarding treatment for previously unidentified archaeological resources that are encountered during construction.

FAA received a listing of Native American contacts for the proposed undertaking from the California Native American Heritage Commission (NAHC) on February 5, 2018 for the proposed RS-X. The NAHC recommended FAA contact the Gabrielino Band of Mission Indians – Kizh Nation, and four different representatives of the Gabrielino-Tongva Tribe.

On February 16, 2018, FAA mailed project information about the proposed undertaking and APE to the tribal contacts provided by the NAHC. The FAA received a request from the Gabrielino Band of Mission Indians – Kizh Nation to consult. On April 26, 2018, the FAA met with representatives of the Gabrielino Band of Mission Indians – Kizh Nation. The tribal members requested that any ground disturbing activities would require a Native American monitor. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and/or monitor have indicated that the site has a low potential for cultural or archaeological resources.

With adherence to the LAWA ATP, construction of the Proposed Action Alternative would not affect historic, architectural, archaeological, or cultural resources. FAA requested concurrence with this determination in a letter to the SHPO dated April 30, 2018. The SHPO issued a response, dated May 30, 2018 (see **Appendix B**), concurring with FAA's findings. Overall impacts to cultural resources as part of the Proposed Action Alternative are not anticipated to be significant when compared to the No Action Alternative.

4.5.5 OPERATIONAL IMPACTS

4.5.5.1 No Action Alternative

Under the No Action Alternative, existing operations would remain and would not include the elements proposed under the Proposed Action Alternative. Operations of the No Action Alternative would not introduce any activity that would have the potential to disturb historic, architectural, archaeological or cultural resources.

4.5.5.2 Proposed Action Alternative

As discussed in Section 4.5.4.2, the cultural resource records review of the CRTR and *Section 106 Assessment* for the LAX Landside Access Modernization Program EA indicated that no previously recorded historic, architectural, archaeological or cultural resources are located within the APE.

Additionally, the APE is located within a highly urbanized area and has been subject to disturbance by Airport operations and development, and other on-going construction activities. Operations of the Proposed Action Alternative would result in a similar urban activity and would not introduce any activity that would have the potential to disturb cultural resources. Therefore, operations of the Proposed Action Alternative would not have a significant impact on cultural resources when compared to the No Action Alternative.

4.6 Land Use

4.6.1 REGULATORY SETTING

Pursuant to Title 49 U.S.C. 47107(a)(10), *Project Grant Application Approval Conditioned on Assurances about Airport Operations*, an airport sponsor is required to provide written assurance that appropriate action has been, or will be, taken to ensure existing and planned land uses adjacent to or in the immediate vicinity of an airport are compatible with normal airport operations. Additionally, pursuant to Title 49 U.S.C. 47106(a)(1), *Project Grant Application Approval Conditioned on Satisfaction of Project Requirements*, the airport sponsor must provide assurance that a proposed action is consistent with existing land use plans.

On the state level, pursuant to the California State Aeronautics Act (California Public Utilities Code 21670 et seq.), every county that contains an airport with scheduled airline service is required to establish an airport land use commission (ALUC). The ALUC is required to develop and implement an airport land use compatibility plan (ALUCP) to provide for the orderly growth of a public airport and the area surrounding the airport. The ALUCP should reflect the anticipated growth of the airport during the next 20 years. Jurisdictions with planning and development authority within the area covered by an ALUCP are required to ensure that their planning documents and zoning ordinances are consistent with the ALUCP, or take specific steps to override the ALUCP.

The Los Angeles County Regional Planning Commission is the designated ALUC for airports within Los Angeles County. The Los Angeles County Airport Land Use Plan (ALUP) establishes a planning boundary for each commercial airport within Los Angeles County to delineate areas subject to noise impacts and safety hazards.¹³ The ALUP is implemented through General Plan, Specific Plan, and zoning amendments.¹⁴

As required under Title 49 U.S.C. 47107(a)(10), *Project Grant Application Approval Conditioned on Assurances about Airport Operations*, LAWA, as Airport Sponsor, has provided FAA assurance that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to activities compatible with normal airport operations, including landing and takeoff of aircraft. A copy of the letter documenting this assurance is provided in **Appendix C**.

Locally, the community and general plans for each of the jurisdictions intersected by and/or adjacent to the LAX boundary provide land use guidance for future development in areas around LAX. The following describes applicable plans and land uses identified for areas in the vicinity of the Proposed Project Area.

¹³ County of Los Angeles, Airport Land Use Commission, Department of Regional Planning, *Los Angeles County Airport Land Use Plan*, adopted December 19, 1991, revised December 1, 2004, Available: <http://planning.lacounty.gov/view/alup/>.

¹⁴ California Public Utilities Code Section 21676.

City of Los Angeles General Plan – Land Use Element

City of Los Angeles General Plan. The City of Los Angeles General Plan is a comprehensive, long-term declaration of purposes, policies, and programs for the development of the City of Los Angeles. The City of Los Angeles General Plan integrates a range of State-mandated elements including Land Use, Transportation, Noise, Safety, Housing, and Conservation. The Land Use Element consists of 35 Community Plans and the LAX Plan.

LAX Plan. The LAX Plan is the community plan for the LAX area and was adopted concurrently with the LAX Master Plan, approved by the Los Angeles City Council in December 2004 and amended in 2013 and 2017.¹⁵ The LAX Plan establishes the land use policy for LAX and is intended to promote an arrangement of airport uses that encourages and contributes to the modernization of the Airport in an orderly and flexible manner within the context of the City and region. Land uses in the LAX property are divided into the following areas: Airport Airside Area, Airport Landside Area, Airport Landside Support Area, LAX Northside Area, and Open Space. The LAX Plan area consists of 3,900 acres and is bounded by the communities of Westchester, El Segundo, Lennox, and Inglewood.

The Proposed Project Area is located within the LAX Northside Area and the Airport Airside Area. The LAX Northside Area has allowable uses of commercial development, office, light industrial, airline and airport support services, security services, and research and development. The Airport Airside Area includes those aspects of passenger and cargo movement that are associated with aircraft operating under power and related airfield support services.

Westchester-Playa del Rey Community Plan. The Westchester-Playa del Rey Community Plan is one of 35 Community Plans that make up the Land Use Element of the City of Los Angeles General Plan. The Westchester-Playa del Rey Community Plan Area (CPA) is situated in the western portion of the Los Angeles Basin, north and east of LAX and the Proposed Project Area. The Westchester-Playa del Rey CPA is generally bounded by Centinela Avenue, La Cienega Boulevard, unincorporated communities of Los Angeles County, the City of Inglewood, the City of El Segundo, Dockweiler State Beach, Ballona Creek, and Jefferson Boulevard.¹⁶

The existing land use consists primarily of low to low-medium density residential uses, with commercial uses concentrated near the transit corridors of Lincoln Boulevard, Sepulveda Boulevard, and Century Boulevard. Most of the housing stock is more than 40 years of age. Concentrations of multi-family residential uses can be found near La Tijera Boulevard and Manchester Avenue. Land uses adjacent to LAX include single- and multi-family housing north of Westchester Parkway and commercial uses east of Sepulveda Boulevard.

¹⁵ City of Los Angeles, Department of City Planning, *LAX Plan*, adopted December 14, 2004, last amended June 16, 2017.

¹⁶ City of Los Angeles, *Westchester-Playa Del Rey Community Plan*, April 2004.

Applicable City of Los Angeles Specific Plans

LAX Specific Plan. The LAX Specific Plan achieves the goals and objectives of the LAX Plan through zoning and development standards, and establishes the regulatory controls and incentives for the systematic and incremental execution of the LAX Plan. The currently adopted LAX Specific Plan zoning for the Proposed Project Area are the LAX Zone: LAX Northside Subarea and the LAX Zone: Airport Airside Subarea. The purpose of the Airport Airside Subarea is to allow for the safe and efficient operation of airport airfield activities. The LAX Northside Subarea is to provide for the redevelopment of land previously used for residential purposes with uses that are consistent with airport needs and neighborhood conditions. The LAX Northside Subarea serves as an airport buffer zone for the Westchester community.

Coastal Bluffs Specific Plan. This Specific Plan applies to the portion of the Westchester-Playa del Rey CPA that is bounded by Lincoln Boulevard on the east, the Ballona Wetlands and Culver Boulevard on the north, Vista del Mar on the west, and Rees, 83rd, 79th, and 80th Streets to the south. The purpose of this Specific Plan is to implement the policies and objectives of the Scenic Highways Plan, the Seismic Safety Plan, the Open Space Plan, the Conservation Element, and the Westchester-Playa del Rey Community Plan, which are components of the City of Los Angeles General Plan.¹⁷

4.6.2 METHODOLOGY

The assessment of potential land use and planning effects of the No Action and Proposed Action Alternatives focuses on the identification of applicable federal, regional, state, and local land use plans and policies and assesses the consistency of the alternatives to these plans and policies. The analysis of plan consistency is designed to determine whether any inconsistencies need to be addressed before the Proposed Action Alternative can be implemented. The No Action and Proposed Action Alternatives were reviewed for consistency with applicable local land use plans.

LAWA adheres to all grant assurances and applicable U.S.C. regulations related to land use compatibility. Pursuant to Title 49 U.S.C. 47107(a)(10), *Project Grant Application Approval Conditioned on Assurances about Airport Operations*, of the 1982 Airport and Airway Improvement Act, LAWA has provided written assurance to the FAA that appropriate action is being taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to activities and purposes compatible with normal Airport operations. A copy of the written assurance is in **Appendix C**.

4.6.3 SIGNIFICANCE THRESHOLDS

The FAA has not established a significance threshold for land use. The FAA cannot approve airport project funding unless the project is in compliance with development plans of public agencies responsible for the area in which the airport is located. Additionally, the determination of whether a significant impact exists for land use is often dependent on impacts of the Proposed Action or alternatives on other environmental resource categories. Since the No Action and Proposed Action Alternatives do not result in significant effects

¹⁷ City of Los Angeles, Department of City Planning, *Coastal Bluffs Specific Plan*, adopted October 6, 2004.

in other environmental impact categories that could affect land use compatibility, this evaluation was limited to the evaluation of land use changes in the Proposed Project Area.

4.6.4 CONSTRUCTION AND OPERATIONAL IMPACTS

4.6.4.1 No Action Alternative

Under the No Action Alternative, none of the proposed improvements or activities associated with the Proposed Action Alternative would occur and existing land use and operations would continue under current conditions. The Proposed Project Area is within the LAX Northside Area and the Airport Airside Area. The LAX Northside Area has allowable uses of commercial development, office, light industrial, airline and airport support services, security services, and research and development. The Airport Airside Area includes those aspects of passenger and cargo movement that are associated with aircraft operating under power and related airfield support services. Existing land uses, including the MSC Project Management Office, are consistent and compatible with both the LAX Plan and LAX Specific Plan. Therefore, no significant construction or operational impacts related to compatible land use would occur under the No Action Alternative.

4.6.4.2 Proposed Action Alternative

Under the Proposed Action Alternative, construction activities would include excavation, grading, trenching, and facility construction associated with the RS-X and associated electrical infrastructure. Construction and operations of the RS-X and associated infrastructure would be consistent with both the LAX Plan and LAX Specific Plan which designates acceptable site land uses as airport and airfield support services. Additionally, the construction of the Proposed Action Alternative is not anticipated to impact surrounding land uses associated with the Westchester-Playa del Rey Community Plan nor the Coastal Bluffs Specific Plan which designates the surrounding area as residential and open space, respectively. Construction and operations of the Proposed Action Alternative would occur on land that is zoned and designated as "LAX Zone" and changes in land use associated with construction would be compatible with the existing zoning designation. Additionally, based on the distance of the nearest noise-sensitive land uses, being approximately 600 feet to the north and existing noise-levels associated with transit corridors and Airport operations, it is not anticipated that construction or operations associated with the Proposed Action Alternative would have significant noise impacts to these land uses when compared to the No Action Alternative, as discussed in Section 4.8.

The Proposed Action Alternative would not conflict with surrounding land uses and would be consistent with the applicable land use goals and policies of the LAX Plan, Westchester-Playa del Rey Community Plan, the LAX Specific Plan, and the Coastal Bluffs Specific Plan, as well as existing zoning regulations. Therefore, the Proposed Action Alternative would not result in significant impacts to land use when compared to the No Action Alternative.

4.7 Natural Resources and Energy Supply

4.7.1 REGULATORY SETTING

Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*, establishes an integrated strategy towards sustainability in the federal government and makes reduction of GHG emissions a priority for federal agencies.

4.7.2 METHODOLOGY

The analysis for natural resources and energy supply considers the demand for consumable natural resources (e.g., water, oil, and coal) and energy (e.g., electricity and natural gas) under the Proposed Action and the No Action Alternatives. Impacts to electricity demand, water usage, fuel consumption, and other consumable materials were determined by evaluating the extent to which construction and operation of the Proposed Action Alternative would change demand in comparison with the No Action Alternative, as well as by assessing whether the change would cause demand to exceed available or future supplies, as compared with the No Action Alternative. This analysis also considers the ability of the Proposed Action Alternative to avoid or reduce energy and water consumption through conservation programs and efficiency features.

4.7.3 SIGNIFICANCE THRESHOLDS

The FAA has not established a significance threshold for consumable natural resources and energy supply. Significant impacts would occur when an action's construction or operation would cause demand for scarce consumable natural resources and energy to exceed available or future supplies.

4.7.4 CONSTRUCTION IMPACTS

4.7.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area. Therefore, no effects related to natural resources and energy supply under the No Action Alternative are anticipated.

4.7.4.2 Proposed Action Alternative

Construction associated with the Proposed Action Alternative would require natural resources, including: lumber; sand and gravel; asphalt, concrete, and soil; and steel, copper, and other metals. These materials are widely available in the Los Angeles area and construction of the Proposed Action Alternative would not impact natural resource supplies. Construction of the Proposed Action Alternative would consume energy in the form of electricity, natural gas, and transportation-related fuels, through use of construction equipment, transport of construction materials, temporary lighting, etc. These fuels and energy options are not unusual or in short supply and are widely available. In addition, construction of the Proposed Action Alternative would also require water for dust suppression, concrete production, pavement saw-cutting, and equipment cleaning. No significant effects related to natural resources or energy supply associated with the Proposed Action construction are anticipated.

In addition to natural resource and energy supply consumption, construction of the Proposed Action Alternative would require the installation of new utility infrastructure and the connection to existing utility lines. The Proposed Action Alternative would include a new structure and associated electrical facilities, requiring new utility connections for their operations. Service disruptions would be avoided, or limited to the shortest amount of time necessary, in order to connect new infrastructure. Construction impacts to utilities and service systems would not be significant when compared to the No Action Alternative.

4.7.5 OPERATIONAL IMPACTS

4.7.5.1 No Action Alternative

Under the No Action Alternative, none of the proposed improvements or activities associated with the Proposed Action Alternative would occur and existing land use and operations would continue under current conditions. Energy requirements for existing facilities that would remain under the No Action Alternative would be similar to existing energy requirements. Therefore, no significant effects related to natural resources or energy associated with operation of the No Action Alternative are anticipated.

4.7.5.2 Proposed Action Alternative

Energy consumption for buildings is generally determined by square footage and facility type. As the Proposed Action Alternative would only account for an increase in 4,800 square feet of conditioned space, energy requirements would be negligible. Similarly, it is not anticipated that the Proposed Action Alternative would require a considerable amount of natural resources for operations. Therefore, no significant effects related to natural resources associated with the operation of the Proposed Action Alternative are anticipated. Additionally, the operation of the RS-X would provide the Airport with a redundant source of power, as well as additional power capacity, providing a beneficial impact to energy supplies at the Airport.

4.8 Noise and Compatible Land Use

4.8.1 REGULATORY SETTING

The FAA has laws and regulations that provide a basis for local development of airport plans, analysis of potential impacts from airport development, and compatibility policies. As the Proposed Action Alternative and No Action Alternative would not result in any changes to aircraft operations, departures and arrivals runway utilization, or runway configuration; noise from aircraft operations would not be affected by the Proposed Action Alternative or No Action Alternative.

4.8.2 METHODOLOGY

This section addresses construction equipment noise and operations noise associated with the Proposed Action Alternative. As noted above, the Proposed Action Alternative would not result in any changes to aircraft operations, departures or arrivals runway utilization, or runway configuration; therefore, noise from

aircraft operations would not be affected. Noise analysis guidance defined in the FAA 1050.1F Desk Reference states that there may be state or local laws or ordinances that apply to noise from a proposed project, such as construction noise.¹⁸ Furthermore, FAA Order 1050.1F states that it may be necessary to include noise sources other than aircraft departures and arrivals in the noise analysis, such as construction noise.¹⁹ Because there are no FAA approved models for construction noise, the U.S. DOT Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to calculate the noise level of construction equipment that would potentially be used during construction of the Proposed Action Alternative. This tool enables the prediction of construction noise levels for a variety of construction operations based on a compilation of empirical data and the application of acoustical propagation formulas.²⁰

Construction activities generate noise from the operation of equipment required for demolition and construction of various facilities. Noise effects from on-site construction and staging of construction trucks were evaluated by determining the noise levels generated by different types of construction activity and calculating the construction-related noise level at the closest noise-sensitive receptor locations. 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 A-weighted decibels (dBA) L_{eq} at 50 feet from the noise source.²¹ This type of sound typically dissipates at a rate of 4.5 dBA to 6 dBA for each doubling of distance. The sound drop-off rate does not take into account any intervening shielding (including landscaping or trees) or barriers, such as structures or hills between the noise source and noise receptor. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

4.8.3 SIGNIFICANCE THRESHOLDS

Guidance provided in the FAA 1050.1F Desk Reference identifies that there may be state or local laws or ordinances that apply to noise from a proposed project, such as construction noise.²² The City of Los Angeles has adopted the following significance thresholds:

- Construction activities lasting more than 1 day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or,

¹⁸ U.S. Department of Transportation, Federal Aviation Administration, *1050.1F Desk Reference*, July 2015.

¹⁹ U.S. Department of Transportation, Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, effective July 16, 2015.

²⁰ U.S. Department of Transportation, Federal Highway Administration, *Roadway Construction Noise Model – RCNM*, https://www.fhwa.dot.gov/Environment/noise/construction_noise/rcnm/, (accessed: January 2018).

²¹ City of Los Angeles, *L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analyses in Los Angeles, Section I.1, Construction Noise*, 2006.

²² U.S. Department of Transportation, Federal Aviation Administration, *1050.1F Desk Reference*, July 2015.

- Construction activities would exceed the ambient exterior noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday; before 8:00 a.m. or after 6:00 p.m. on Saturday; or any time on Sunday.
- Operation of the project causes the ambient noise level measured at the property line of noise-sensitive uses to increase by 5 dBA.

4.8.4 CONSTRUCTION IMPACTS

4.8.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area. Therefore, there would be no change in the noise environment at noise-sensitive areas adjoining the Proposed Project Area. No significant construction noise impacts or noise impacts to compatible land use would occur.

4.8.4.2 Proposed Action Alternative

Ambient noise levels were measured at the four closest noise-sensitive receptors to the Proposed Project Area (see **Table 4-5**). The measured ambient noise levels at these four receptors are also provided in Table 4-5.

Construction activities generate noise from the operation of equipment required for excavation, trenching, and construction of facilities. Noise impacts from on-site construction and staging of construction trucks were evaluated by determining the noise levels generated by different types of construction activity and calculating the construction-related noise level at nearby noise-sensitive receptor locations.

Table 4-5: Ambient Noise Levels (dBA) at Noise-Sensitive Receptors

RECEPTOR ID	USE	ADDRESS	PROXIMITY TO PROJECT SITE	AMBIENT NOISE LEVEL
REC-1	Single- and multifamily residential	8829 Pershing Drive	600 feet to the north	72.4
REC-2	Multifamily residential	8707 S. Falmouth Avenue	1,000 feet to the northeast	70.1
REC-3	St. Bernard High School	7724 W. St. Bernard Street	1,250 feet to the northeast	64.6
REC-4	Vista del Mar Park	8204 N. Vista del Mar	2,250 feet to the southwest	75.4

SOURCE: Meridian Consultants, February 2018.

Table 4-6 presents the estimated maximum construction noise levels for the different construction activities associated with the Proposed Action Alternative. As shown in Table 4-6, construction noise levels associated with the Proposed Action Alternative would not be above the ambient noise levels by more than 5.0 dBA at any of the noise-sensitive receptors. Additionally, construction activities would be temporary in nature and would not have any long-term noise-related impacts.

Table 4-6: Construction Noise Estimates (dBA) – Proposed Action Alternative

RECEPTOR ID	DISTANCE FROM PROJECT SITE (FEET)	PAVEMENT DEMOLITION	BUILDING		TRENCHING/ PAVING	AMBIENT NOISE LEVEL, LEQ (DBA)	CONSTRUCTION PLUS AMBIENT NOISE LEVEL	MAXIMUM AMOUNT OVER AMBIENT	
			DEMOLITION/ EQUIPMENT INSTALLATION	GRADING EXCAVATION					
REC-1	600	66.0	66.5	63.4	63.9	59.9	72.4	73.4	1.0
REC-2	1,000	61.6	62.1	59.0	59.5	55.4	70.1	70.7	0.6
REC-3	1,250	59.7	60.1	57.0	57.6	53.5	64.6	65.9	1.3
REC-4	2,250	54.6	55.0	51.9	52.4	48.4	75.4	75.4	0.0

SOURCE: Meridian Consultants, February 2018.

4.8.5 OPERATIONAL IMPACTS

4.8.5.1 No Action Alternative

Under the No Action Alternative, the improvements associated with the Proposed Action Alternative would not be constructed and the noise environment at LAX and at the existing noise-sensitive land uses would remain unchanged. Therefore, no operational impacts would occur.

4.8.5.2 Proposed Action Alternative

The Proposed Action Alternative would include operations of electrical equipment, including new pathways along Pershing Drive and World Way West to connect the new RS-X to the midfield area of the airfield and to existing ductbanks that run under the southbound lanes of Pershing Drive. The transformer banks are anticipated to be the dominant operational noise source for the RS-X.

Transformers emit a characteristic hum resulting from magnetostrictive forces that cause the core of the transformer to vibrate. A transformer core is made of multiple sheets of specially designed steel that extend and contract due to the flux of alternating current—producing noise and mechanical vibrations. Transformer cooling also produces semi-continuous noise. Oil pumps used to cool transformers during periods of high electrical demands also contribute to the operational noise. The amount of noise generated by a transformer is generally fixed by design, and vibration is generally reduced by isolating the core and coils from the ground using antivibration pads.

The proposed transformers would not exceed the values specified by the American National Standards Institute (ANSI) standards. Each transformer is designed not to exceed a maximum sound level of 76 dBA during standard operation in accordance with the ANSI C57.12.90 standard. Additionally, the reactor, in accordance with ANSI C57.21, is designed not to exceed a maximum sound level of 75 dBA during standard operations²³. . It is anticipated that the transformers would share approximately one-half of the maximum load (less than 60 MVA) reducing generated noise. Additionally, the transformers and reactor would be isolated and surrounded by containment structures and other buffer areas to further reduce noise generation.

²³ Waizenegger, Jack, Owner, ElectricCorps, "RS-X Environmental Entitlements Update", email to Robert Burlingham, May 22, 2018

Given the distance between the Proposed Project Area and noise-sensitive receptors, the operational noise from the transformers would not exceed the existing ambient noise levels at any noise-sensitive site.

Additionally, no significant increase in roadway noise would be anticipated as compared to the No Action Alternative as there would not be an increase in traffic. The Proposed Action Alternative would not affect (increase or decrease) the number of aircraft operations at LAX or the routing of aircraft in the air to and from LAX. In summary, the Proposed Action Alternative would not cause the ambient noise level measured at the property line of noise-sensitive uses to increase by 5 dBA. Therefore, operations of the Proposed Action Alternative would not significantly change the noise environment at LAX when compared to the No Action Alternative. As such, no significant operational noise impacts would be anticipated as a result of the Proposed Action Alternative.

4.9 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risk

4.9.1 REGULATORY SETTING

Evaluation of socioeconomic effects encompass aspects of a project that are either social or economic in nature and include consideration of the activities and resources associated with the everyday human environment, particularly related to population centers, their demographics, and the economic activities generated. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, was enacted in 1994 to ensure the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The principal social impacts to be considered are those associated with relocation or other community disruption, transportation, planned development, and employment. A series of census tracts in the immediate vicinity of LAX was identified for socioeconomic analysis for the *Proposed Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements EA*. Updates to those census tracts applicable to the Proposed Project Area are provided in Section 3.11.

4.9.2 METHODOLOGY

4.9.2.1 Socioeconomics

Socioeconomic data, including demographics (race and ethnicity), housing characteristics, and employment data was gathered using U.S. Census data for the one census tract located within the Proposed Project Area with a known population (see Tables 3-4, 3-5, and 3-6). Projected population, housing, and employment were compared to existing conditions of the Proposed Project Area and significance thresholds to determine potential impacts. Secondary (induced) impacts were analyzed for the jurisdictions within or adjacent to the Proposed Project Area boundaries, as well as nearby jurisdictions which could potentially be affected by the Proposed Action Alternative. The jurisdictions assessed include the City of Los Angeles and Los Angeles County (see Exhibit 3-6).

Social impacts were determined through the evaluation of how the implementation of the No Action Alternative or Proposed Action Alternative could impact sensitive populations and resources important to surrounding populations.

4.9.2.2 Environmental Justice

U.S. DOT Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (May 2, 2012), was used to undertake the environmental justice analysis as required under Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994). Environmental justice impacts were evaluated by determining whether the No Action Alternative or Proposed Action Alternative would have disproportionately high and adverse human health or environmental impacts on minority and low-income populations.

A census tract has the potential to contain a community of environmental justice concern when the minority or low-income population of the analysis area is “meaningfully greater” than that of the surrounding areas. Poverty was determined using U.S. Department of Housing and Urban Development, Health and Human Services Poverty Guidelines as utilized by the U.S. Census.

4.9.2.3 Children’s Environmental Health and Safety Risk

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), requires federal agencies to prioritize the identification and assessment of environmental health and safety risks resulting from policies, programs, activities, and standards that may disproportionately affect children. The location of schools and daycare centers in the vicinity of the Proposed Project Area were identified, and any specific health concerns for children are qualitatively described.

4.9.3 SIGNIFICANCE THRESHOLDS

The FAA has not established significance thresholds for socioeconomic resources, environmental justice, or children’s environmental health and safety risks. However, FAA Order 1050.1F has identified several factors to consider when evaluating the context and intensity of impacts in this resource category, as listed below for each element of this environmental resource.

- Socioeconomic and Secondary (Induced) Impacts
 - Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
 - Disrupt or divide the physical arrangement of an established community;
 - Cause extensive relocation when sufficient replacement housing is unavailable;
 - Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
 - Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
 - Produce a substantial loss in community tax base.

- Environmental Justice:
 - Cause disproportionately high and adverse human health or environmental impacts to minorities and low-income populations, considering significant impacts in other environmental impact categories.
- Children’s Environmental Health and Safety Risks:
 - Cause disproportionate health and safety risks to children.

4.9.4 CONSTRUCTION IMPACTS

4.9.4.1 No Action Alternative

Under the No Action Alternative, no elements proposed under the Proposed Action Alternative would be constructed. Therefore, no construction impacts to socioeconomics, environmental justice, or children’s environmental health and safety would occur.

4.9.4.2 Proposed Action Alternative

Socioeconomic and Secondary (Induced) Impacts

Construction of the Proposed Action Alternative would occur entirely on LAX property and would not disrupt or divide established communities, cause the relocation of residences, or affect the community tax base. Construction activities would generate increased traffic associated with construction employees and deliveries in the vicinity of the proposed staging areas (Exhibit 2-2). Potential construction haul routes would be located along Westchester Parkway and Pershing Drive. During the peak year of construction, assumed to be 2019, the average number of construction trips per day to the site would be 99, with peak day trips of 218. These roads would sustain a temporary increase in construction traffic due to hauling and employee trips; however, this increase would not be substantial and employee trips would occur outside of the commuter peaks. Therefore, no significant socioeconomic impacts during construction of the Proposed Action Alternative are anticipated.

Environmental Justice

The combined populations of the Census tract adjacent to the Proposed Project Area can be characterized as having a smaller percentage of minority population and a lower percentage of residents in poverty than the City of Los Angeles or Los Angeles County (refer to Tables 3-5 and 3-6).

An analysis of air quality (see Section 4.1), noise (see Section 4.8), and traffic (see above) indicates that no significant construction impacts are anticipated under the Proposed Action Alternative. Additionally, no significant construction impacts related to lighting and visual character (see Section 4.10), hazardous materials (see Section 4.4), or water resources (see Section 4.11) are anticipated. Therefore, no disproportionately high and adverse human health or environmental impacts to minority and low-income populations would occur during construction.

Children's Environmental Health and Safety Risk

Air quality construction impacts in the vicinity of the Proposed Project Area would not exceed applicable significant impact thresholds (see Section 4.1). The Proposed Action Alternative would not result in significant construction noise impacts and all noise impacts would be temporary (see Section 4.8). As such, no impacts to children's environmental health and safety are anticipated as a result of construction associated with the Proposed Action Alternative.

4.9.5 OPERATIONAL IMPACTS

4.9.5.1 No Action Alternative

Under the No Action Alternative, existing operations would remain and would not include the elements proposed under the Proposed Action Alternative. Therefore, no disproportionately high and adverse socioeconomic impacts, environmental justice, or children's environmental health and safety would occur.

4.9.5.2 Proposed Action Alternative

Socioeconomic and Secondary (Induced) Impacts

The improvements associated with the Proposed Action Alternative would be located entirely on existing LAX property. Consequently, no real estate acquisitions would be required, and no displacement of residences, businesses, or community facilities/utilities would occur. Furthermore, no disruption to established communities would occur. The Proposed Action Alternative would not result in any impact to the tax base. The Proposed Action Alternative would not result in any changes to the number or size of aircraft operating at LAX, nor would it result in a substantial increase in surface traffic, as access to the site is anticipated to occur once per week for maintenance purposes. Therefore, no significant socioeconomic impacts are anticipated.

Environmental Justice

Demographic and poverty characteristics for the adjacent track are described above under construction impacts. As the Proposed Action Alternative would not result in any long-term or permanent change to aircraft operations at the Airport, nor would it result in significant air quality, noise, and water resource impacts, it would not result in any effect to minority and low-income populations when compared to the No Action Alternative.

Children's Environmental Health and Safety Risk

There is one school and a number of residential areas in close proximity to the Proposed Project Area. However, as the Proposed Action Alternative would not result in any change to aircraft operations at the Airport, nor would it result in significant air quality, noise, or water resource impacts, it would not result in any disproportionate impact on children's environmental health and safety.

4.10 Visual Effects

4.10.1 REGULATORY SETTING

Although there are no federal laws or regulations specific to visual character and light emissions, there are special purpose laws that apply to historic sites, parks, and other protected resources, such as Section 106 of the NHPA and Section 4(f) of the U.S. DOT Act, which must be considered along with applicable state and local regulations, policies, and zoning ordinances.

4.10.2 METHODOLOGY

Impacts from light emissions associated with the No Action and Proposed Action Alternatives were determined by evaluating the extent to which lighting or views would change, and the potential for the changes to create an annoyance for sensitive land uses (e.g., residential uses and natural areas) in the vicinity of the Proposed Project Area. The primary focus of the analysis of light emissions was on light spillover effects. Light spillover effects involve light that shines beyond the area intended for illumination that can be a source of annoyance to adjoining properties, particularly for residences where light (e.g., direct illumination) might disturb sleep or privacy. Impacts from light emissions associated with the Proposed Action Alternative were determined by evaluating the extent to which lighting or views would change, as well as for the potential for the changes to create an annoyance for sensitive uses (e.g., residential uses and natural areas) in the Proposed Project Area.

Impacts to visual character and resources were determined by considering the potential changes in landscape and views in the vicinity of the Proposed Project Area. The methodology used to assess visual character impacts included how the Proposed Action Alternative would affect views across the Proposed Project Area.

4.10.3 SIGNIFICANCE THRESHOLDS

The FAA has not established significance thresholds for visual effects. However, based on guidance in FAA Order 1050.1F, the following factors should be considered when evaluating light emissions and visual effects of an action:

- Light Emissions
 - The degree to which the action would have the potential to create annoyance or interfere with normal activities from light emissions; and
 - The degree to which the action would have the potential to affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Visual Effects
 - The degree to which the action would have the potential to affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;

- The degree to which the action would have the potential to contrast with the visual resources and/or visual character in the project area; and
- The degree to which the action would have the potential to block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

4.10.4 CONSTRUCTION IMPACTS

4.10.4.1 No Action Alternative

Under the No Action Alternative, the proposed improvements associated with the construction of RS-X and connected electrical infrastructure would not occur. Consequently, there would be no change in light emissions or visual effects in the Proposed Project Area under the No Action Alternative. Therefore, no significant impacts related to construction lighting and visual effects are anticipated.

4.10.4.2 Proposed Action Alternative

Lighting Emissions

Construction of the Proposed Action Alternative would involve various demolition, grading, excavation, trenching, and building construction activities, requiring equipment such as excavators, graders, and loaders. The Proposed Project Area is located at a higher elevation than the adjacent Westchester Parkway and Pershing Drive, such that the elevated landscaped berm would serve as a buffer mechanism to minimize light spillover. However, as the project site is located adjacent to the end of the runways, construction activities would follow standard construction practices, as well as local regulations, to confine lighting and minimize the spillover of light off of the project site.

Construction of the Proposed Action Alternative would be required to adhere to FAA guidance to avoid the creation of light and glare impacts, and to eliminate any potential adverse impacts of visual encroachments to airport operations, including aircraft or air traffic controllers. Given the numerous light sources that generate varying degrees of light emissions within and around the Proposed Project Area, and with adherence to FAA guidance, it is not anticipated that construction lighting associated with the Proposed Action Alternative would create light or glare issues for aircraft departing or arriving on the north airfield,

The nearest light-sensitive uses to the project site include the single- and multifamily residential uses and school uses to the north of Westchester Parkway, and the Vista del Mar Park to the west across Pershing Drive. The closest of these light-sensitive receptors, the multifamily residential uses, are located approximately 600 feet to the north. Given the distance of these receptors and numerous existing sources of light that generate varying degrees of light emissions within and around the project site, it would be unlikely that construction lighting associated with the Proposed Action Alternative would create an annoyance or interfere with normal activities; nor would it interfere with the visual character of the Proposed Project Area. Therefore, no significant effects related to light emissions associated with the construction of the Proposed Action Alternative are anticipated.

Visual Effects

Construction of the Proposed Action Alternative would result in temporary changes to the visual character of the Proposed Project Area. Temporary construction fencing, including screening, canopies, or other buffer mechanisms, would be installed to screen construction activities and equipment from Westchester Parkway and Pershing Drive. However, construction of the Proposed Action Alternative would not affect any visual resources, or facilities that are visually important or unique in character. Construction of the Proposed Action Alternative would not diminish a valued focal or panoramic view. While construction activities could be visible from surrounding uses and nearby vantage points, no notable views within the Proposed Project Area are considered visually important or have unique characteristics. Therefore, no significant effects related to visual effects associated with the construction of the Proposed Action Alternative are anticipated.

4.10.5 OPERATIONAL IMPACTS

4.10.5.1 No Action Alternative

Under the No Action Alternative, the proposed improvements associated with construction of the RS-X and connected electrical infrastructure would not occur. Consequently, the lighting conditions and visual effects in the Proposed Project Area under the No Action Alternative would be similar to existing conditions. Therefore, no significant effects related to light emissions or visual impacts are anticipated.

4.10.5.2 Proposed Action Alternative

Lighting Emissions

Operation of the Proposed Action Alternative would contribute sources of lighting typical of a modern airport transportation area, which currently contains moderate to high levels of ambient lighting. The Proposed Action Alternative would introduce similar airport-support uses that currently exist on the project site, including light poles, building entrance and walkway illumination, building perimeter lights, and security lighting. These introduced sources of lighting would be shielded and directed downward to confine lighting and minimize light spillover to adjacent sensitive uses to the north and west of the Proposed Project Area. Additionally, as the Proposed Action Alternative would not substantially alter the lighting environment at the project site, glare and lighting impacts to flight operations on the north airfield are not expected. Operation of the Proposed Action Alternative would not result in any adverse effects on lighting emissions when compared to the No Action Alternative.

Visual Effects

The Proposed Action Alternative is located within a highly urbanized area characterized by airport, low- and medium-density residential, and disturbed vacant open space uses. As previously described, existing views within the Proposed Project Area, including views of the ocean to the west, are generally blocked by elevation changes and landscaped berms that currently line the northern and western boundaries of the Proposed Project Area. As such, views of the Proposed Project Area are currently limited due to the existing elevation changes within the area.

Operation of the Proposed Action involves the implementation of utility infrastructure that would provide electrical support for LAX. Components of the Proposed Action Alternative would be a compatible airport-

related use and would not be out of character for the area. Also, the Proposed Action Alternative would comply with the aesthetics-related goals and policies identified in the LAX Northside Design Guidelines, which establish the requirement for buffers to the surrounding residential neighborhoods. As such, operations of the Proposed Action Alternative would not contrast or affect the nature of the visual character of the project area, nor would it block or obstruct the views of any visual resource. Operation of the Proposed Action Alternative would not result in any adverse effects on visual resources or visual character when compared to the No Action Alternative.

4.11 Water Resources

4.11.1 REGULATORY SETTING

4.11.1.1 Surface Waters

Stormwater drainage, sanitary wastewater, and industrial wastewater collection are separate systems in the City of Los Angeles. Stormwater discharges associated with LAX are regulated by individual NPDES wastewater permits. Wastewater permits currently issued to LAX are intended to implement stormwater pollution control measures to reduce the discharge of pollutants in storm water from the industrial and construction activities at LAX.

In 2011, the City of Los Angeles Board of Public Works approved the Stormwater Low Impact Development (LID) Ordinance²⁴ to impose LID strategies on projects requiring building permits. LID comprises a set of site design approaches and BMPs that are designed to address runoff and pollution at the source. The Stormwater LID Ordinance requires 100 percent of rainwater from a three-quarter inch rainstorm to be completely captured, infiltrated, and/or used on-site. If site constraints do not allow for LID strategies to be implemented, off-site mitigation or fee payment for off-site mitigation is allowed.

The City's *Development Best Management Practices Handbook*²⁵ ("Handbook") and the County's *Low Impact Development Standards Manual*²⁶ were developed to assist developers (as well as City departments for public works projects such as those at LAX) in complying with the LID Ordinance.

4.11.1.2 Groundwater

The SDWA authorizes the USEPA to set standards for drinking water quality, and the USEPA can delegate authority to states to implement the Act within their jurisdictions, if they meet or exceed USEPA standards.

²⁴ City of Los Angeles, Ordinance No. 181,899, Chapter VI, Article 4.4, October 7, 2011, Available: http://www.lastormwater.org/wp-content/files_mf/finalidordinance181899.pdf.

²⁵ City of Los Angeles, *Development Best Management Practices Handbook, Low Impact Development Manual*, Part B, Planning Activities, 4th edition, June 2011.

²⁶ County of Los Angeles, Department of Public Works, *Low Impact Development Standards Manual*, February 2014.

In 1955, the State of California passed the Water Replenishment District Act that provides for the formation of water replenishment districts and grants authority to the district for the replenishment, protection, and preservation of groundwater supplies within that district. In 1959, the Water Replenishment District (WRD) of Southern California was created with authority for the West Coast Groundwater Basin, which underlies approximately 160 square miles of coastal Los Angeles County including the Proposed Project Area and as such is the authority for groundwater management for LAX.

The California Sustainable Groundwater Management Act, passed in 2014 provides local agencies with the authority to adopt groundwater management plans. The Act requires the formation of local groundwater sustainability agencies that would develop and implement plans to achieve long term groundwater sustainability.

4.11.2 METHODOLOGY

Federal, state, and local statutes regulating water resources were reviewed for the analysis of potential water quality impacts. The applicable statutes establish water quality standards, control discharges and pollution sources, protect drinking water systems, prevent or minimize the loss of wetlands, and protect aquifers and other sensitive ecological areas.

Reports and documents previously prepared by LAWA were used to assess whether the No Action or Proposed Action Alternatives would impact water quality and water resources. Existing impervious areas and locations where disturbance would occur under the Proposed Action Alternative were reviewed to evaluate potential direct and indirect impacts on groundwater and surface water resources. Direct effects include increased turbidity and erosion during construction and increased runoff during operations. Indirect effects can occur when changes in the planned development of an area result in increased water needs or reduced water quality.

4.11.3 SIGNIFICANCE THRESHOLDS

FAA Order 1050.1F, which defines the water resources impact categories, specifies the consideration of wetlands, floodplains, surface waters, groundwater, and Wild and Scenic Rivers. As discussed in Section 3, no wetlands, floodplains, or wild or scenic rivers are located in the vicinity of the Proposed Project Area; therefore, implementation of the Proposed Action would not affect wetlands, floodplains, or wild and scenic rivers.

A significant impact to surface waters or groundwater would exist if the action would cause an exceedance of water quality standards established by federal, state, local, or tribal regulatory agencies or contaminate the public drinking water supply, including an aquifer used for public water supply, such that public health may be adversely affected.

4.11.4 CONSTRUCTION IMPACTS

4.11.4.1 No Action Alternative

Under the No Action Alternative, no construction activities would occur within the Proposed Project Area. There would be no change to the impervious surface area and, therefore, no potential for additional impact to

aquifer recharge. The No Action Alternative would not involve grading; therefore, there is no potential for downstream erosion or sedimentation or modified drainage patterns. There is no earthwork associated with the No Action Alternative and accordingly no potential for pollution and contamination impacts nor need for sediment and erosion control. The No Action Alternative would not impact any of the Airport's SWPPP provisions. Therefore, no significant construction impacts on water quality or water resources are anticipated from the No Action Alternative.

4.11.4.2 Proposed Action Alternative

Surface Water

The Proposed Project Area is primarily within the Culver Drain Sub-Basin, but portions of the proposed ductbanks would be located within the Imperial and Argo Sub-Basins, all of which are part of the part of the larger Santa Monica Bay Watershed. Thus, stormwater runoff within the Proposed Project Area is received by the Santa Monica Bay.

Site clearing and grading activities associated with the Proposed Action Alternative have the greatest potential for discharging sediment and pollutants downstream during storm events. Construction and grading activities would involve earth movement and the use of heavy construction equipment. Peak stormwater runoff could result in short-term sheet erosion with areas of exposed or stockpiled soils. Additionally, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase runoff and erosion potential.

The Proposed Action Alternative would be required to develop a site-specific SWPPP in accordance with the NPDES Program General permits authorized under the CWA for construction activities and would be administered by the Los Angeles SWRCB. As required under the SWRCB's General Permit for Construction Activities, LAWA has prepared stormwater BMP guidance instructions applicable to airport improvement projects.²⁷ This document outlines the procedures for preparing and implementing a construction SWPPP before beginning any construction activities so that the activities are in compliance with the general permit, and water quality impacts are minimized. BMPs would be implemented to minimize the effects of sediment transport and leakage of fluids from vehicles and equipment. BMPs to control sediment transport include the use of gravel bag filters and filter basins. Pollution prevention and waste management plans would be prepared to address the storage, handling, and disposal of fuel, oils, and other wastes from construction.

The implementation of BMPs and adherence to a site-specific SWPPP during construction would protect the surface water quality of receiving waters during construction, which would not be expected to exceed applicable water quality standards or contaminate the public drinking water supply. Therefore, impacts of the Proposed Action Alternative on surface water quality are not anticipated to be significant when compared to the No Action Alternative.

²⁷ City of Los Angeles, Los Angeles World Airports, 2016 Design and Construction Handbook: Environmental – Guidance Manual for Construction Storm Water Pollution Prevention, Issued November 2015, Available <https://www.lawa.org/-/media/lawa-web/tenants411/file/lawa-guidance-manual---construction-swpp.ashx?la=en&hash=2D08CD74FFF2CF67C85E296FA62D1D56182E5684>.

Groundwater

Construction of the Proposed Action Alternative would not require the use of groundwater and, thus, would not draw upon groundwater supplies. Construction of the RS-X and associated electrical infrastructure would require a maximum excavation depth of approximately 30 feet below ground elevation. Excavation associated with the trenching along Pershing Drive and World West Way would require a maximum excavation of approximately 7 feet. As discussed in Section 3.13.2, the Proposed Project Area is not located within a perched groundwater area and depth to groundwater within the Proposed Project Area is anticipated to exceed 60 feet. The maximum excavation associated with the Proposed Action Alternative would be substantially above the historic high groundwater elevation of 40 feet below ground surface.

As discussed in Section 4.4.4, contaminated groundwater may be unexpectedly encountered during construction of the Proposed Action Alternative. Furthermore, the possibility exists that previously unidentified soil and/or perched groundwater contamination could be encountered during construction. However, the handling of any contaminated materials would comply with all applicable local, state, and federal laws to avoid contamination of groundwater supplies, including aquifers relied upon for public drinking water. Therefore, impacts to groundwater would not be significant when compared to the No Action Alternative.

4.11.5 OPERATIONAL IMPACTS

4.11.5.1 No Action Alternative

Under the No Action Alternative, none of the proposed improvements associated with the Proposed Action Alternative would occur and the site would continue to operate similar to existing conditions. Therefore, no significant effects related to water quality or water resources would occur under the No Action Alternative.

4.11.5.2 Proposed Action Alternative

Surface Water

The Proposed Action Alternative would slightly increase the amount of impervious surfaces of the Proposed Project Area, but would not substantially modify existing drainage patterns, nor would the Proposed Action Alternative result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow. Stormwater discharges to existing drainage features would continue similar to existing conditions. Thus, the Proposed Action Alternative would not cause a substantial change in the current or direction of water flow and would likely minimally impact the movement of surface water.

The Proposed Action Alternative would not cause substantial alteration of the existing drainage pattern of the Proposed Project Area in a manner which would result in substantial erosion or siltation on- or off-site. All facilities receiving and conveying stormwater from the Airport would be below ground pipe or concrete-lined structures. As such any increases in stormwater peak flow rates or changes in the drainage infrastructure would not result in substantial erosion or siltation. Peak runoff depths in storm drains downstream of the Proposed Action Alternative would be required to not exceed existing drainage system peak depths for the 10-year storm.

With the current and direction of water flow substantially unchanged, adequate drainage systems in place, and no increased risk of flooding, the risk of violations of applicable water quality standards is extremely low. Furthermore, adherence to permit-related operational measures for discharges and adequate stormwater drainage systems would further reduce any risk that applicable water quality standards would be violated or a public drinking water supply would be contaminated. Similarly, because the Proposed Action Alternative would adhere to applicable permit conditions and SWPPP measures, it would not interfere with compliance with water quality standards; thus, the natural and beneficial uses and values of the receiving water body are unlikely to be substantially diminished. Therefore, impacts to water quality or water resources would not be significant when compared to the No Action Alternative.

Groundwater

Operation of the Proposed Action Alternative would not require the use of groundwater and, thus, would not draw upon groundwater supplies. Although operation of the Proposed Action Alternative would potentially result in a slight net increase in impervious areas and an associated decrease in the volume of surface recharge within the Proposed Project Area when compared to existing conditions, the reduction in surface recharge would not substantially change the groundwater storage or groundwater elevation beneath the Proposed Project Area because the basin is replenished predominantly through injection wells that are part of the seawater intrusion barrier system.²⁸ Therefore, the Proposed Action Alternative would not contaminate the public drinking water supply and groundwater impacts would be less than significant when compared to the No Action Alternative.

4.12 Cumulative Impacts

4.12.1 METHODOLOGY

Cumulative impacts to environmental resources result from the incremental effects of a proposed action when combined with other past, present, and reasonably foreseeable future actions in the area, regardless of the entity (i.e., federal or non-federal) or person that would carry out those actions. In some cases, individually minor but collectively significant actions occurring over a defined period of time can cause cumulative impacts. In accordance with NEPA, a discussion of cumulative impacts resulting from projects proposed, under construction, recently completed, or planned for implementation in the near future is required. For purposes of this analysis, past, present, and reasonably foreseeable projects at/adjacent to LAX were identified within the immediate vicinity of the Proposed Project Area. The development projects at/adjacent to LAX that are considered in this assessment of potential cumulative impacts are listed in **Table 4-7** and **Exhibit 4-1**.

²⁸ U.S. Department of the Interior, U.S. Geological Survey, *Ground-Water Quality of Coastal Aquifer Systems in the West Coast Basin, Los Angeles County, California, 1999-2002*, pg. 2, 2004.

Table 4-7 (1 of 4): Past, Present, and Reasonably Foreseeable Projects

	PROJECT	DATES	DESCRIPTION
Past Projects			
1	Central Utility Plant Replacement Project (CUP-RP)	May 2011 – Mar 2015	Replacement CUP and related underground piping network within CTA.
2	Runway 6L-24R Runway Safety Area Improvements Project – North Airfield	June 2015 – Oct 2015	Improvements to Runway 6L-24R included implementation of declared distances to meet FAA Runway Safety Area (RSA) requirements. The Runway 6L-24R RSA Project also required the demolition and reconstruction of service roads and the relocation of the AOA fence and security gates.
3	Runway 6R-24L Runway Safety Area Improvements Project - North Airfield	Aug 2015 – Nov 2016	Improvements to both ends of Runway 6R-24L, including an easterly shift of the runway and reconfigured taxiways to meet FAA RSA requirements. The Runway 6R-24L RSA Project also required the relocation of a security post and the taxicab holding/staging area.
Present Projects			
4	LAX Bradley West Project	Nov 2013 – Nov 2019	Replacement of existing concourses and aprons at the Tom Bradley International Terminal (TBIT) with new concourses and gates at Bradley West. Work includes demolition of existing TBIT concourses and installation of east gates/aprons along Bradley West concourses. Also includes Taxilane T project and construction of secure/sterile passenger and baggage connection between the TBIT core and Terminal 4. Although construction of a similar connection between TBIT core and Terminal 3 is also part of the overall Bradley West Project, it is broken out separately below (Project 16, Terminal 3 Connector), as its construction would not begin until after the majority of the Bradley West improvements are completed.
5	Runway 7L-25R Runway Safety Area Improvements Project - South Airfield	May 2016 – May 2018	Improvements at west end of Runway 7L-25R, including runway and connecting taxiway extensions to meet FAA RSA requirements. Rehabilitation of deteriorating concrete at east end of runway and Taxiway B.
6	Terminal 7 and Terminal 8 Improvements	Mar 2014 – April 2018	Major interior improvements and building system upgrades within Terminal 7 and Terminal 8.
7	Terminal 1 Improvements	Aug 2014 – Nov 2018	Major interior improvements and building system upgrades to Terminal 1, including addition of floor space and reconfiguration of gates.
8	West Aircraft Maintenance Area Project	Aug 2014 – Mar 2019	The West Aircraft Maintenance Area (WAMA) project will allow for more efficient and effective maintenance of existing aircraft at LAX, including Aircraft Design Group (ADG) VI aircraft (Airbus A380s and Boeing 747-8s). The project includes aircraft parking and maintenance facilities, employee parking areas, and related storage, equipment, and facilities. The project will be able to accommodate up to 8 ADG VI aircraft simultaneously or 18 ADG III aircraft (aircraft similar in size to and including Boeing 737s). The first phase of the WAMA Project, which included construction of a Qantas Airlines aircraft maintenance hangar and aircraft parking, was completed in July 2016. The second phase of the WAMA Project (construction of an additional maintenance hangar for Delta Air Lines) is underway.

[DRAFT]

Table 4-7 (2 of 4): Past, Present, and Reasonably Foreseeable Projects

	PROJECT	DATES	DESCRIPTION
9	LAX Northside Development	April 2016 – June 2025	The Northside Development will transform approximately 340 acres of land on the north side of the airport with up to 2,320,000 square feet of development to better serve LAX and the local communities of Westchester and Playa del Rey. Permitted uses include recreation and open space; office, research, and development; community and civic; commercial; airport support; and landscape buffer.
10	Metro Crenshaw/LAX Transit Corridor Project	Jan 2015 – 2019	The Los Angeles County Metropolitan Transportation Authority (Metro) is constructing the Crenshaw/LAX Transit Corridor Project, which includes an 8.5-mile light-rail transit (LRT) line that will connect the existing Metro Green Line and the Metro Expo Line at Crenshaw and Exposition Boulevards. As part of this project, a station is being constructed in proximity to LAX near the intersection of Century Boulevard and Aviation Boulevard.
11	LAX Midfield Satellite Concourse (MSC) North Project	April 2015 – April 2020	The MSC North Project consists of a satellite concourse west of TBIT that will include up to 12 aircraft gates that could accommodate ADG V and ADG VI aircraft. The MSC North Project includes associated apron areas, a new crossfield taxiway, a taxilane, and an underground tunnel.
12	Hyperion (Water Reclamation) Treatment Plant Connector	Oct 2017 – May 2018	This project will provide a connection from LAWA's existing retention basin within the southwest portion of LAX to the existing North Central Outfall Sewer (NCOS) interceptor that runs within LAWA property and is connected to the Hyperion Treatment Plant. The purpose of this connection is to convey the stormwater flow from LAWA's Imperial and Pershing subdrains (approximately 1,200 acres) to the Hyperion Treatment Plant, to help LAWA comply with the City's Low Impact Development and Industrial General Permit requirements. Improvements include construction of an approximately 4'-diameter connection to the NCOS, and installation of pumps and related electrical and mechanical equipment.
13	Terminal 1.5	Oct 2017 – Mar 2020	Terminal 1.5 will be constructed between existing Terminal 1 and Terminal 2 to provide additional passenger processing facilities for the north passenger terminals.
N/A	Miscellaneous Projects and Improvements	Jan 2014 – July 2020	LAWA will undertake a wide variety of smaller miscellaneous projects and improvements mostly related to repair/replacement of, and upgrades to, existing facilities at LAX, including, but not limited to, runway repair/rehabilitation; elevators/escalators replacement; CTA second level roadway repairs; terminal taxilanes and aprons rehabilitation; passenger boarding bridge replacements; terminal electrical, plumbing, and facilities upgrades; miscellaneous demolition; and other improvements.
Reasonably Foreseeable Projects			
14	Runway 7R-25L Rehabilitation	2020– 2021	Reconstruction of runway pavement.
15	Argo Drain Sub-Basin Stormwater Infiltration and Treatment Facility	Jun 2018 – Jan 2020	Also referred to as the Westchester Stormwater Best Management Practices Project, this project would develop a 22-acre stormwater infiltration facility north of Westchester Parkway and east of Pershing Drive that would treat both City of Los Angeles and LAWA stormwater flows from the Argo watershed.

Table 4-7 (3 of 4): Past, Present, and Reasonably Foreseeable Projects

PROJECT		DATES	DESCRIPTION
Reasonably Foreseeable Projects			
16	Terminal 3 Connector	Jan 2021 – Dec 2022	The Terminal 3 connector will provide a passenger connection between TBIT and Terminal 3 on the north side, similar to the Terminal 4 connector.
17	Airport Police Facility	May 2018 – Dec 2020	Relocation of LAWA Police Department to consolidate facilities into one location in the LAX Northside, which will include the police headquarters, shooting range, canine facility, and parking structure.
18	Secured Area Access Post (SAAP) Project	2018 – 2020 ^{1/}	Construction of a fully functional, secured access point onto the Airport Operations Area (AOA) on the west side of LAX. This will be the sole full-access SAAP on World Way West to replace SAAP 5 which was displaced by the MSC project, and SAAP 21, which was taken out of service by Phase 2 of the WAMA Project in May 2017. The proposed location of the new SAAP is parallel to, and south of, World Way West, near where the road will terminate at Coast Guard Road once the LAX MSC North Project is completed.
19	Terminals 2 and 3 Modernization Project	May 2018 – June 2023	Improvements to Terminals 2 and 3, consisting of upgrading the Terminal 2 concourse, including construction of additional floor area; the demolition and reconstruction of the Terminal 3 concourse building to provide additional concourse area, including a new operation control center; the demolition of the Terminal 3 satellite; the demolition and reconstruction of the passenger and baggage processing facilities (ticketing buildings) at Terminals 2 and 3, including new facilities for passenger and baggage screening, ticketing, and baggage claim; and a secure connector between Terminals 2 and 3.
20	Airport Metro Connector (AMC) 96th Street Transit Station	2020 – 2023	Metro will be constructing a new multi-modal transportation center at 96th Street and Aviation Boulevard to connect LAX to the regional bus and transit system. Components of the AMC 96th Street Transit Station include three at-grade LRT platforms, bus plaza, bicycle hub, pedestrian plaza, passenger vehicle pick-up and drop-off area and Metro transit center/terminal building ("Metro Hub") to connect passengers between the multiple transportation modes.
21	MSC South Project	2019 – 2025	The MSC South concourse would be constructed on the south end of the MSC North concourse. The facility would provide approximately 560,000 square feet of floor space.
22	North Airfield Safety Improvements	2021 - 2027	Improvements to the north airfield could include installation of taxiways, improvements to existing taxiways, installation of runway status lights, and other safety improvements, including land use compatibility projects with existing Runway Protection Zones. Relocation of Taxiway D may impact a portion of the West Remote Gates which would require construction of replacement gates.

Table 4-7 (4 of 4): Past, Present, and Reasonably Foreseeable Projects

	PROJECT	DATES	DESCRIPTION
23	LAX Landside Access Modernization Program ^{2/}	2018 – Dec 2035	Improvements within and east of the CTA to: improve access options and the travel experience for passengers; provide a direct connection to the Metro transit system; provide easier and more efficient access to rental cars; relieve congestion in the CTA and on the surrounding street system; and improve the efficiency and operation of the transportation system serving LAX. The program components include an automated people mover (APM) system, Intermodal Transportation Facilities (ITFs), a Consolidated Rental Car Facility (CONRAC), pedestrian walkway connections to the passenger terminals within the CTA, and roadway improvements.
24	United Airlines (UAL) East Aircraft Maintenance/GSE Project	Late 2018 – Aug 2020	UAL's aircraft and GSE maintenance activities will be consolidated from locations on the west side and east side of LAX into a single location on the east side of LAX. The existing UAL maintenance facilities on the east side of LAX would be demolished and replaced with new, modernized facilities.
25	Shared Ride Van Lot Relocation	2018	The Shared Ride Van Lot, currently located south of Century Boulevard and north and east of Avion Drive, will be relocated to an alternative site on airport property, provisionally LAWA's Parking Lot E, located on the north side of W. 111th Street, east of the Proud Bird Food Bazaar & Events Center.
26	Quonset Hut Relocation	2018-2019	As part of its implementation of the LAX Preservation Plan, LAWA will relocate the World War II-era Quonset Hut, currently located near the southern terminus of Avion Drive, to the Aviation Park at the Proud Bird Food Bazaar & Events Center. As part of the relocation, LAWA will rehabilitate the structure in accordance with the requirements of the Preservation Plan. Relocation of the Quonset Hut to the Aviation Park will place the structure in a facility with multiple exhibits dedicated to aviation history, including several World War II vintage aircraft.
27	LAX Fuel Tank Installation	June 2018 – Mar 2019	The LAX Fuel Tank Installation project consists of the addition of four new 60,000 barrel (bbl) gross capacity above-ground fuel storage tanks at the existing LAXFUEL leasehold on the west side of LAX. The project includes improvements to add these additional four tanks, including associated site work, piping, and electrical modifications.

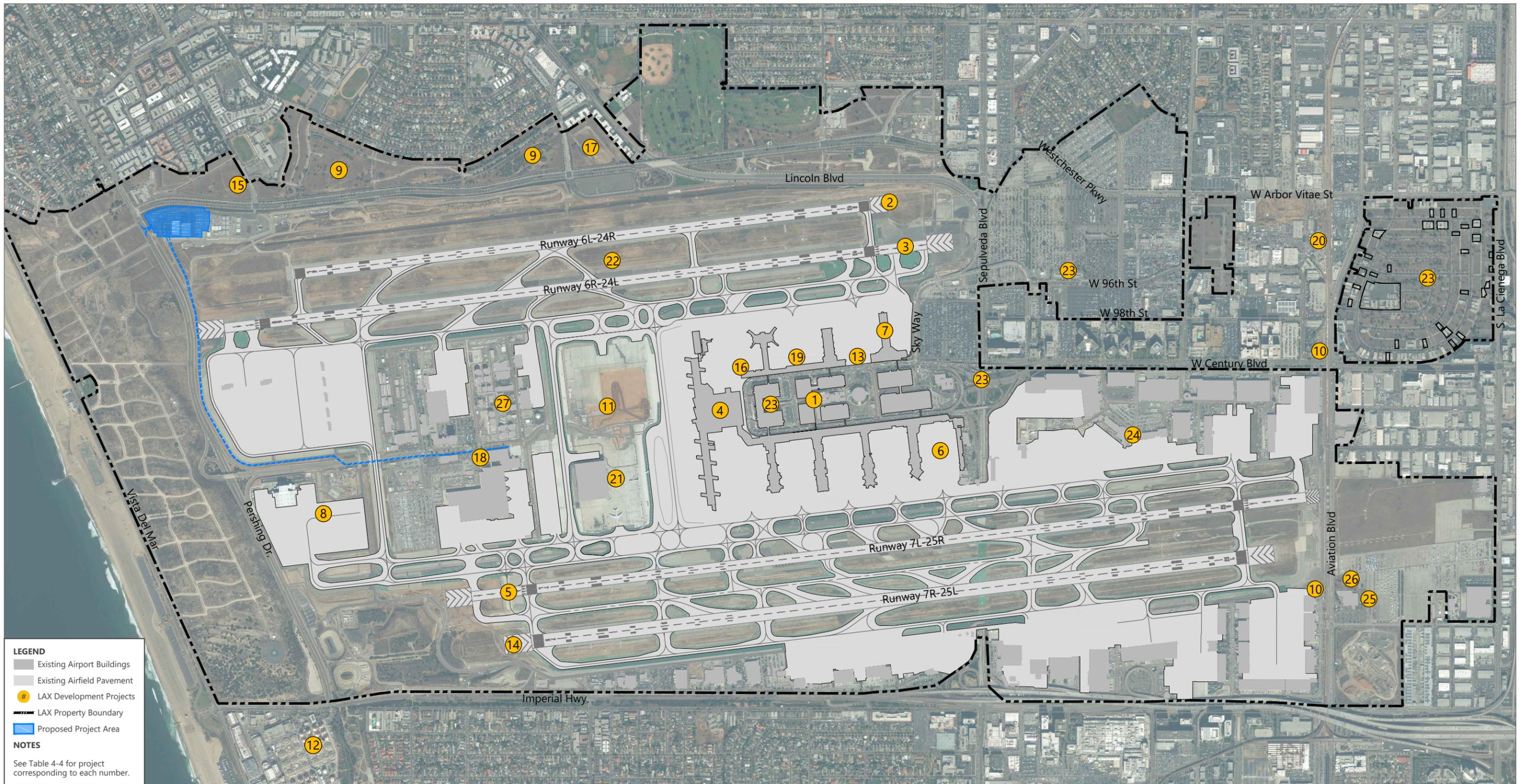
NOTES:

- 1/ The proposed SAAP project would take approximately 13 months for demolition and construction. Demolition and construction may not be continuous; the 13 months of overall construction activity is estimated to occur in the timeframe between 2018 and 2020.
- 2/ There are no current proposals or plans regarding what types or amounts of development may occur on the parcels that would be available for other uses as a result of the LAX Landside Access Modernization Program. Further planning, assessment and other efforts would be needed. Thus, particular uses and development are not reasonably foreseeable at this time. However, to conservatively assess and disclose possible cumulative impacts, this EA makes reasonable assumptions about possible future development for purposes of assessing cumulative impacts, including on surface traffic and air quality.

SOURCES: LAWA, 2016; Los Angeles County Metropolitan Transportation Authority (Metro), *Airport Metro Connector 96th Street Transit Station Draft Environmental Impact Report*, Executive Summary and Chapter 2, Project Description, June 2016; U.S. Department of Transportation, Federal Aviation Administration, *Finding of No Significant Impact (FONSI) and Record of Decision (ROD) For the Southern California Metroplex Project*, August 2016.

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[Preliminary Draft for Discussion Purposes Only]



NOTE: Improvements depicted are conceptual only and do not represent engineered design.
 SOURCE: Los Angeles World Airports; HNTB, July 2012; Historic Resources Group, LAX Landside Transportation Project Resources Assessment, January 2016; MapLAX, July 2016; Ricondo & Associates, Inc., May 2018.

EXHIBIT 4-1



Past, Present, and Reasonably Foreseeable Projects

Drawing: P:\Project-Denver\LAX\ACAD\LAX_PDF_RS-X Past-Present-Future Projects_20180511.dwg; layout: Fig 4-1 Development Projects Plotted: Jun 7, 2018, 04:36PM

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For this EA, 28 projects meet the criteria described above; these projects are in various stages of planning and/or construction. The discussion below provides a qualitative analysis of these 28 projects and their potential impacts to the environmental resources presented in this EA, including: air quality; climate; coastal resources; hazardous materials, solid waste, and pollution prevention; historic, architectural, archaeological, and cultural resources; land use; natural resources and energy supply; noise and noise-compatible land use; socioeconomic impacts, environmental justice, children's environmental health and safety risk; visual effects; and water resources.

4.12.2 AIR QUALITY

Due to the nature of emissions, all emissions have the potential to contribute to cumulative air quality effects. Therefore, *de minimis* thresholds are set for the purpose of determining potential cumulative air quality effects resulting from individual project emission contributions. If a project's emissions are below the *de minimis* thresholds, then it is expected that the project would not contribute to the cumulative air quality effects in that region. Even with the short-term increase in emissions from the construction of the Proposed Action Alternative, emission levels would be less than *de minimis* thresholds. Therefore, changes in the criteria air pollutant emissions as a result of the Proposed Action Alternative would not cumulatively contribute to a significant impact on air quality.

4.12.3 CLIMATE

The FAA has not established a threshold of significance for climate and GHG emissions. GHG emissions would temporarily increase during construction of the Proposed Action Alternative; however, GHG emissions associated with the operation of the Proposed Action Alternative would be comparable to the No Action Alternative.

4.12.4 COASTAL RESOURCES

The Proposed Action Alternative would not result in impacts to wetlands, the clearing of vegetation or an increase in impervious surfaces, nor would it cause erosion, increased turbidity in water bodies, or sedimentation or add any above-ground structures or change land use within the coastal zone. The Proposed Action Alternative would not impact coastal resources; therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact on coastal resources.

4.12.5 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

The Proposed Action Alternative would not violate laws and regulations or result in a change in the amount of hazardous or solid waste generated by operation of the Proposed Action Alternative compared with the No Action Alternative. Pollution-prevention measures would be employed to address short-term construction activities as well as construction and operation of other on-Airport cumulative projects. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact in this category.

4.12.6 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

There are no documented cultural resources within the APE associated with the Proposed Action Alternative. In the event of an unanticipated discovery during ground-disturbing construction activities, cultural resources would be properly evaluated and managed in accordance with applicable federal, state, and local requirements. These procedures for handling unanticipated discoveries during ground-disturbing construction would be followed during all on-Airport projects. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact on historic, architectural, archaeological, or cultural resources.

4.12.7 LAND USE

The Proposed Action Alternative would be consistent and not conflict with applicable land use plans, policies, and regulations and, as such, impacts would not be significant when compared to the No Action Alternative.

As noted above in Table 4-7, there are other ongoing and planned Airport and non-Airport projects within the immediate vicinity of the Proposed Action Alternative. These projects represent further improvement in the Airport operations and further development of the surrounding area. However, these projects would not create fundamental conflicts with applicable land use plans, policies, and regulations. Therefore, the Proposed Action Alternative, in combination with the ongoing and future projects at LAX and the vicinity of the Airport, would not result in a significant cumulative impact related to land use and planning when compared to the No Action Alternative.

4.12.8 NATURAL RESOURCES AND ENERGY SUPPLY

Demand for consumable natural resources and energy supply would not be affected by operation of the Proposed Action Alternative. Temporary increases in demand for consumable natural resources would occur during construction of the Proposed Action Alternative, which is anticipated to begin in 2019. As indicated in Table 4-7, other ongoing and future projects have been identified within the immediate vicinity of the Proposed Project Area. However, cumulative utility impacts on supply and distribution capabilities or on new supply facilities and distribution infrastructure are unlikely. In addition, new buildings would be required to meet energy consumption standards prescribed for new structures in Title 24, and all LAX development projects would also comply with LAWA's *Sustainability Plan*. As such, cumulative impacts of the Proposed Action Alternative when combined with ongoing and future development projects would not result in a demand for scarce consumable natural resources and energy in excess of available or future supplies. No significant cumulative impacts would occur as a result of implementation of the Proposed Action Alternative, in combination with the ongoing and future projects at LAX and the vicinity of the Airport, when compared to the No Action Alternative.

4.12.9 NOISE AND NOISE-COMPATIBLE LAND USE

The Proposed Action Alternative would not cause a significant increase in noise from construction activities. While construction of simultaneous projects may temporarily increase noise, the area surrounding these construction sites are separated by distance such that noise impacts would not be cumulatively significant. Therefore, cumulative noise levels from construction would not be significant when compared to the No Action Alternative.

4.12.10 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISK

Identified projects have not and are not anticipated to result in socioeconomic, environmental justice, children's environmental health and safety risk, or surface transportation impacts. Construction of past and present actions at LAX have resulted and continue to result in temporary increases in local surface traffic, noise and air quality.

The Proposed Action Alternative would not disrupt or divide established communities, cause relocation of residences or businesses, or affect the community tax base or result in impacts to children's environmental health and safety risk or environmental justice communities. The Proposed Project Area was designed to support these land uses and associated trips and would not result in a cumulative effect on the level of service of Airport and area roadways. Based on a review of cumulative impact projects, no cumulative socioeconomic impacts would occur as a result of the Proposed Action Alternative.

4.12.11 VISUAL EFFECTS

As discussed in Sections 4.10.3 and 4.10.4, the Proposed Action Alternative would not result in significant impacts to light emissions or visual effects. As identified in Table 4-7, the only future project planned within the immediate area of the Proposed Project Area is the Argo Drain Sub-Basin Stormwater Infiltration and Treatment Facility, which is primarily an underground facility. Cumulative development would be of a similar visual character to the existing Airport and commercial uses within the Proposed Project Area and is not anticipated to introduce new aesthetic elements that would be out of scale or character with the existing visual environment. Cumulatively, construction activities associated with these projects would result in short-term visual impacts. Therefore, there would be no cumulative impacts relative to visual character or resources when compared to the No Action Alternative.

As previously identified, light-sensitive uses within proximity to the Proposed Project Area include the residential and school uses located north of Westchester Parkway. As previously described, the Proposed Project Area is a modern airport transportation area, which currently contains moderate to high levels of ambient lighting. The introduced sources of lighting would not substantially alter the existing ambient lighting environment. All future projects would comply with applicable design guidelines and regulations to minimize the spillover of light onto adjacent light-sensitive uses. As such, development of the Proposed Action Alternative, in combination with past, present, and reasonably foreseeable future projects, would not create annoyance or interfere with normal activities due to light intrusion; therefore, there would be no cumulative impacts relative to light emissions when compared to the No Action Alternative.

4.12.12 WATER RESOURCES

No cumulative impact projects would occur within the boundaries of the Proposed Project Area and contribute to surface water or ground water resource impacts. Furthermore, the Proposed Action Alternative, as well as other development projects at LAX, would comply with surface water and groundwater quality standards established by federal, state, and local laws and regulations, as well as the Airport's SWPPPs for construction and industrial activities. The Proposed Action Alternative would not affect public drinking water sources. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact on water resources.

5. Coordination and Public Involvement

5.1 Introduction

Under Title 40 CFR 1501.4, *Whether to Prepare an Environmental Impact Statement*, federal agencies are required to involve environmental agencies, applicants, and the public, to the extent practicable, when preparing EAs. Therefore, when conducting the NEPA process for the preparation of an EA, the FAA and the airport sponsor are encouraged to begin early coordination with the proper federal, state, tribal, and local agencies, including surrounding municipalities, in order to determine any possible environmental concerns. Following the release of this Draft EA, public input on the Draft EA will be solicited. The primary components of the agency coordination and public involvement program include the following:

- notification of the publication of the Draft EA for agency and public review in local newspapers; and
- preparation of a Final EA that includes responses to comments received on the Draft EA.

Keeping agencies and the public informed and gathering their input are essential components of any environmental study. The following sections summarize the agency coordination and public involvement program for this EA.

5.2 Agency Coordination and Public Involvement Program

5.2.1 AGENCY AND PUBLIC REVIEW OF THE DRAFT EA

This Draft EA is available for review by the general public, government agencies, and interested parties for a period of 30 days. The Notice of Availability (NOA) of the Draft EA for review was published on September 7, 2018. The NOA was sent to everyone included on the mailing list provided by LAWA. The NOA was also published in the *Los Angeles Times*, *The Argonaut*, *La Opinión*, and the *Daily Breeze*. Copies of the Draft EA are available for review at the locations listed in **Table 5-1**, including LAWA offices and the FAA Airport District Office in El Segundo, CA. Review days and times vary by location. The documents can also be viewed at <https://www.lawa.org/en/lawa-our-lax> under "Environmental Documents, Documents Underway".

Table 5-1: Locations Where Draft EA is Available

LOCATION	ADDRESS	CITY	ZIP CODE
LAWA Offices	1 World Way, Room 218	Los Angeles	90009
Federal Aviation Administration Western-Pacific Region Airports Division	777 S. Aviation Boulevard, Suite 150	El Segundo	90245
Westchester-Loyola Village Branch Library	7114 W. Manchester Avenue	Los Angeles	90045
Culver City Library	4975 Overland Avenue	Culver City	90230
El Segundo Library	111 W. Mariposa Avenue	El Segundo	90245
Hawthorne Library	12700 Grevillea Avenue	Hawthorne	90250
Inglewood Library	101 W. Manchester Boulevard	Inglewood	90301

SOURCE: Ricondo & Associates, Inc., February 19, 2018.

Anyone wishing to comment on the Draft EA must provide written comments by **5:00 p.m., Monday, October 8, 2018** to:

Los Angeles World Airports
Land Use and Entitlement Section
Attention: Evelyn Quintanilla, Chief of Airport Planning II
P.O. Box 92216
Los Angeles, CA, 90009-2216

All comments related to the Draft EA will be considered by the FAA and LAWA in preparing the Final EA.

5.2.2 FINAL EA

Comments received on the Draft EA will be addressed in the Final EA. The FAA will use the Final EA to make a decision on the Proposed Action and issue a finding. Notice of release of the Final EA and FAA's finding will be published in the *Los Angeles Times*, *The Argonaut*, *the La Opinión*, and the *Daily Breeze*.

6. List of Preparers

The following individuals contributed to the preparation of this EA. This section provides brief synopses of the qualifications and responsibilities of those responsible for the preparation of this document.

6.1 Principal Federal Aviation Administration Reviewers

Victor Globa, Environmental Protection Specialist, Federal Aviation Administration, Western-Pacific Region, Los Angeles Airports District Office

B.S. Business Administration - Aviation Management. Mr. Globa has over 25 years of experience. Responsible for the FAA review of the Environmental Assessment; coordination with the California State Historic Preservation Office.

6.2 Los Angeles World Airports

Samantha Bricker, Deputy Executive Director, Los Angeles World Airports

M.A. and B.A. in Political Science. Ms. Bricker joined LAWA in July 2016 as the Deputy Executive Director for Project Development and Coordination for LAWA. She has 24 years of experience in transportation projects and joined LAWA after completing her tenure as Chief Operating Officer of the Exposition Metro Line Construction Authority.

Evelyn Y. Quintanilla, Chief of Airport Planning II, Los Angeles World Airports

B.S. Urban Planning & Development. Ms. Quintanilla has 18 years of experience in city and airport planning. Ms. Quintanilla is the division manager of the Environmental Programs Group and oversees CEQA/NEPA clearances, LAX Plan compliance, and entitlements for all projects at LAWA.

Robert Burlingham, Transportation Planning Associated II, Los Angeles World Airports

B.S. Land Use Planning and Public Administration. Mr. Burlingham has over 28 years of experience as an airport land use, development, and transportation planner. Robert currently serves as a Transportation Planning Associate in LAWA's Environmental Programs Group and oversees transportation planning, short-term forecasting, and environmental review.

Vinita Waskow, City Planner, Los Angeles World Airports

B.S. Landscape Architecture, Master of City Planning. Ms. Waskow has over 10 years of experience in the planning and urban design field. She currently serves as a City Planner in LAWA's Environmental Programs Group and oversees environmental review and entitlement applications.

Brenda Martinez-Sidhom, Community Project Director, Los Angeles World Airports

Mrs. Martinez-Sidhom currently serves as the Stakeholder Liaison for LAWA, and oversees the public release of environmental documents and coordination of public outreach for the Entitlement and Environmental Clearance Section.

6.3 Consultant Team

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Stephen D. Culberson, Vice President

Qualifications – Over 25 years of experience in airport environmental and planning studies, with significant experience in preparing and managing environmental assessments and environmental impact statements, airport master planning projects, and activity forecasts.

Responsibilities – Project management, NEPA documentation, purpose and need, alternatives, affected environment, and environmental consequences.

Allison Sampson, Managing Consultant

Qualifications – Over eight years of experience in airport planning and environmental analyses.

Responsibilities – NEPA documentation, purpose and need, alternatives, affected environment, and environmental consequences; responsible for managing documentation and project records.

Jason Apt, Managing Consultant

Qualifications – Over eleven years of experience in airport planning and environmental analyses.

Responsibilities – Air quality, greenhouse gas emissions, and documentation.

Brian Philiben, Senior Consultant

Qualifications – Five years of experience in airport planning and environmental analyses with a background of more than five years of environmental consulting experience, with particular expertise in land use planning.

Responsibilities – Manage EA documentation, including the environmental consequences sections, as well as the maintenance of project records.

David Plakorus, Senior Consultant

Qualifications – Over eight years of experience in environmental and planning studies, with experience in preparing and managing environmental assessments and environmental impact statements, with particular expertise in land use and socioeconomics.

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MERIDIAN CONSULTANTS (NOISE, VISUAL EFFECTS)*Candice Woodbury, Project Planner*

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Responsibilities – Visual effects.

Christ Kirikian, Senior Environmental Scientist

Qualifications – Over 5 years of experience assisting in the development of environmental documents, with significant experience preparing technical reports related to the assessment of noise control associated with urban development and infrastructure projects.

Responsibilities – Construction noise.

JBG CONSULTING (DOCUMENT EDITOR, ADMINISTRATIVE RECORD)*Julie Gaa, Principal*

Qualifications – Over 29 years of experience in environmental impact analyses, project management, and quality control/quality assurance, with significant experience in preparing environmental impact statements, environmental assessments, and categorical exclusions for airport projects.

Responsibilities – Technical editing and Administrative Record.

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8. List of Abbreviations and Acronyms

A

AIP—Airport Improvement Program

ALP—Airport Layout Plan

ALUC—Airport Land Use Commission

ALUCP—Airport Land Use Compatibility Plan

ALUP—Airport Land Use Plan

AMC—Airport Metro Connector

ANSI—American National Standards Institute

AOA—Airport Operations Area

AOC-3—Area of Concern 3

APE—Area of Potential Effect

APM—Automated People Mover

AST—Above-ground Storage Tank

ATP—Archaeological Treatment Plan

AvGas—Aviation gasoline

B

BAT—Best Available Technology Economically Achievable

BMP—Best Management Practice

C

CAA—Clean Air Act

CAAA—Clean Air Act Amendment

CAAQS—California Ambient Air Quality Standards

CalEEMod—California Emissions Estimator Model

CalEPA—California Environmental Protection Agency

CalRecycle—California Department of Resources Recycling and Recovery

CARB—California Air Resources Board

CBRA—Coastal Barrier Resources Act

CBRS—Coastal Barrier Resources System

CCA—California Coastal Act

CCAA—California Clean Air Act

CCC—California Coastal Commission

CEQ—Council on Environmental Quality

CERCLA—Comprehensive Environmental Response, Compensation, and Liability Act

CFR—Code of Federal Regulations

CH₄—Methane

CO—Carbon Monoxide

CO₂—Carbon Dioxide

CO₂e—Carbon Dioxide Equivalent

CONRAC—Consolidated Rental Car Facility

CPA—Community Plan Area

CRM—Cultural Resource Monitor

CRTR—Cultural Resources Technical Report

CTA—Central Terminal Area

CUP—Central Utility Plant

CUPA—Certified Unified Program Agency

CWA—Clean Water Act

CZMA—Coastal Zone Management Act

D

dba—A-weighted decibels

DOT— U.S. Department of Transportation

DS-111—Distribution Station 111

DTSC—California Environmental Protection Agency Department of Toxic Substance Control

E

EA—Environmental Assessment

EIS—Environmental Impact Statement

EPCRA—Emergency Planning and Community Right to Know Act

F

FAA—Federal Aviation Administration

FAR—Federal Aviation Regulation

FEMA—Federal Emergency Management Agency

FHWA—Federal Highway Administration

FONSI—Finding of No Significant Impact

G

GCASP—General Construction Activity Stormwater Permit

GHG—Greenhouse gas

GSE—Ground Support Equipment

H

HMTA—Hazardous Materials Transportation Act

HRA—Habitat Restoration Area

HWRP—Hyperion Water Reclamation Plant

I

ITF—Intermodal Transportation Facility

J

K

kV—Kilovolt

L

LACDPW—Los Angeles County Department of Public Works

LACEHSD—Los Angeles County Environmental Health Services Department

LACFCD—Los Angeles County Flood Control District

LACFD— Los Angeles County Fire Department

LADBS—Los Angeles Department of Building and Safety

LADWP—Los Angeles Department of Water and Power

LAFD—Los Angeles Fire Department

LAWA—Los Angeles World Airports

LAX—Los Angeles International Airport

LEA—Local Enforcement Agency

LEP—Limited English Proficiency

LID—Low Impact Development

LRT—Light-Rail Transit

M

Metro—Los Angeles County Metropolitan Transportation Authority

MS4—Municipal Storm Sewer System

MSC—Midfield Satellite Concourse

MVA—Megavolt amperes

MWD—Metropolitan Water District of Southern California

N

N₂O—Nitrous oxide

NAAQS—National Ambient Air Quality Standards

NAHC—California Native American Heritage Commission

NCOS—North Central Outfall Sewer

NEPA—National Environmental Policy Act of 1969

NHPA—National Historic Preservation Act

NO₂—Nitrogen dioxide

NOA—Notice of Availability

NOAA—National Oceanic and Atmospheric Administration

NO_x— Oxides of Nitrogen

NPDES—National Pollutant Discharge Elimination System

NPIAS—National Plan of Integrated Airport Systems

NPL—National Priorities List

NRHP—National Register of Historic Places

O

O₃—Ozone

OEHHA—California Environmental Protection Agency Office of Environmental Health Hazard Assessment

P

Pb—Lead

PFC—Passenger Facility Charges
PM₁₀—Particulate matter

PM_{2.5}—Fine particulate matter

ppb—parts per billion

ppm—parts per million

Q

R

RCNM—Roadway Construction Noise Model

RCRA—Resource Conservation and Recovery Act

ROG—Reactive organic gases

RPZ—Runway Protection Zone

RSA—Runway Safety Area

RS-K—Receiving Station “K”

RS-L—Receiving Station “L”

RS-N—Receiving Station “N”

RS-X—Receiving Station “X”

RWQCB—Regional Water Quality Control Board

S

SAAP—Secured Area Access Post

SCAG—Southern California Association of Governments

SCAQMD—South Coast Air Quality Management District

SCCIC—South Central Coastal Information Center

SCH—State Clearinghouse

SDWA—Safe Drinking Water Act

SGS—Scattergood Generating Station

SHPO—State Historic Preservation Officer

SIP—State Implementation Plan

SO₂—Sulfur dioxide

SoCal Gas—Southern California Gas Company

SPCC—Spill Prevention, Control, and Countermeasure

SUSMP—Standard Urban Stormwater Mitigation

Plan

SWPPP—Stormwater Pollution Prevention Plan

SWRCB—State Water Resources Control Board

T

TBIT—Tom Bradley International Terminal

THPO—Tribal Historic Preservation Officer

U

UAL—United Airlines

UPS—Uninterruptable power supply

U.S.C.—United States Code

USD—Unified School District

USEPA—United States Environmental Protection Agency

UST—Underground Storage Tank

V

VOC—Volatile Organic Compounds

W

WBMWD— West Basin Municipal Water District

WBWRP—West Basin Water Reclamation Plant

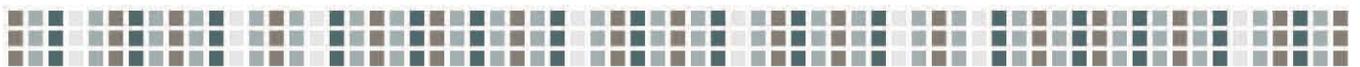
WRD—Water Replenishment District

X

Y

Z

Appendix A
Site Layout Alternatives



Appendix A Site Layout Alternatives

A.1 Site Concepts

The development of alternatives to construct a new electrical Receiving Station "X" (RS-X) and associated electrical infrastructure improvements at Los Angeles International Airport (LAX or Airport) resulted in the identification of several on-Airport sites. These sites were identified for potential development as RS-X, using the following criteria:

- Minimum of 3 to 3-1/2 acres in size;
- Proximity to the existing Los Angeles Department of Water and Power (LADWP) 230 kV transmission line on the west side of LAX along Pershing Drive;
- Proximity to the existing LAX 34.5 kV ductbank distribution points of connection;
- Provide redundant capacity to 230 kV and 34.5 kV equipment and feeders, and 120 MVA redundant capacity;
- Allow for construction of up to 65-foot tall electrical equipment;
- Direct access to a city street;
- Located in an industrial area with the ability for fenced security;
- Ability for future expansion;
- Proximity to LAWA operations and maintenance facilities;
- No impact to potential future Airport facilities;
- No impact to the El Segundo blue butterfly habitat;
- Located outside of the coastal zone; and
- Minimal interference with existing utility lines.

Based on these site criteria, five potential sites on LAX property were identified:

- Alternative 3A: Existing United Airlines Hangar site along World Way West;
- Alternative 3B: West side of LAX near the existing Airport maintenance facility;
- Alternative 3C: North of Westchester Parkway in the LAX Northside;

- Alternative 3D: Near the existing DS-111 Substation; and
- Alternative 3E: Northwest corner of LAX near the intersection of Westchester Parkway and Pershing Drive

Los Angeles World Airports (LAWA), analyzed each site for construction feasibility and operational practicality and, based on the proximity and accessibility to existing electrical infrastructure, Alternative 3E on the southeast corner of Westchester Parkway and Pershing Drive was selected as the most practical location for RS-X.

Once site Alternative 3E was selected, several site concepts were analyzed based on construction feasibility and operational practicality, as described below and depicted on **Exhibit A-1**. No equipment or structures would be located within the Runway 6L-24R Runway Protection Zone (RPZ) under any of the site layout concepts under Alternative 3E.

- Base Case Site Layout: The base case layout contains a maximum site width of 165 feet and includes a retaining wall on the east side. The proposed facility's southern boundary would align with the Runway 6L-24R RPZ. This layout was dismissed due to inadequate space for a 160 MVA facility.
- Site Layout Alternative 1: This layout contains a maximum site width of 200 feet and includes a retaining wall on the north and east sides. Similar to the Base Case Site Layout, the proposed facility's southern boundary would align with the Runway 6L-24R RPZ. This layout was dismissed due to cost considerations associated with the second retaining wall.
- Site Layout Alternative 2: This layout also contains a maximum site width of 200 feet, but includes a 33-foot encroachment into the Runway 6L-24R RPZ for equipment access. This layout was dismissed due to the encroachment on the RPZ.
- Site Layout Alternative 3: This layout contains a maximum site width of 205 feet and includes a retaining wall on the east side. The proposed facility's southern boundary would align with the Runway 6L-24R RPZ. This alternative site layout would increase the height and slope of the north berm along Westchester Parkway, extending into the 50-foot setback of Westchester Parkway. This layout was dismissed due to concerns about providing adequate space for the 230 kV and 34.5 kV transformers without encroaching into the Runway 6L-24R RPZ. Although the schematic layout fit within the site, there would be no room for circulation around the equipment.
- Site Layout Alternative 4: This layout contains a maximum site width of 213 feet and includes a retaining wall on the east side. The proposed facility's southern boundary would align with the Runway 6L-24R RPZ, and would increase the height and slope of the north berm along Westchester Parkway, extending into the 50-foot setback of Westchester Parkway. The increased width in comparison to Site Layout Alternative 3, allowed for the accommodation of the 230 kV and 34.5 kV transformers without encroaching on the Runway 6L-24R RPZ. This alternative site layout was determined feasible and retained for consideration.
- Site Layout Alternative 5: This layout is similar to Site Layout Alternative 4, with the exception that the proposed access to the site is located south of the LAX Northside subarea development limits, near the Southern California Edison (SCE) electrical substation. This layout was dismissed due to excavation

[DRAFT]

requirements and SCE utility line relocations that would need to occur to provide site access to the facility.

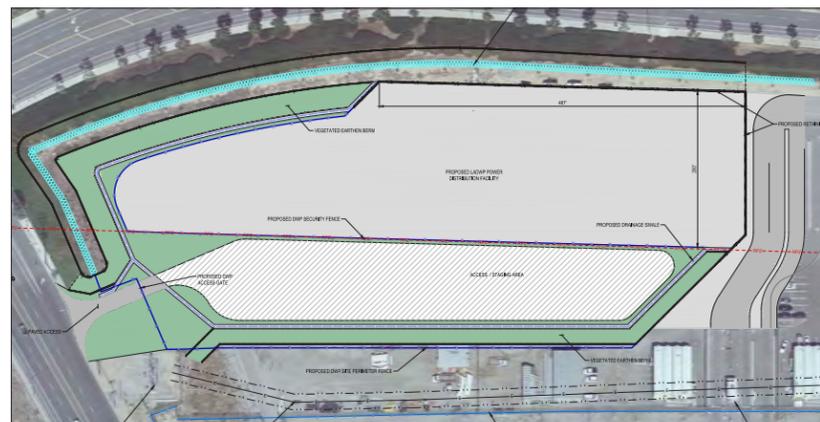
- Site Layout Alternative 6: This layout is similar to Site Layout Alternative 4, with the exception that the proposed access to the site is located off Westchester Parkway to the east, near the existing Airport Operations Area (AOA) access post. This alternative would allow a semi-truck trailer, with a 50-foot wheel base, to enter the site from Westchester Parkway, and make a 360 degree turn on both east and west sides of the site. However, this alternative required considerably greater excavation and increased costs when compared to Site Layout Alternative 4. Thus, this alternative was eliminated from consideration.

It was determined that Site Layout Alternative 4 was feasible to construct and operationally practical and, thus, it was selected as the preferred site layout. Based on the review of potential alternatives considering construction complexity and feasibility as well as operational practicality, Alternative 3E with Site Layout Alternative 4 was retained for detailed environmental analysis in Section 4, *Environmental Consequences*, of the Environmental Assessment.

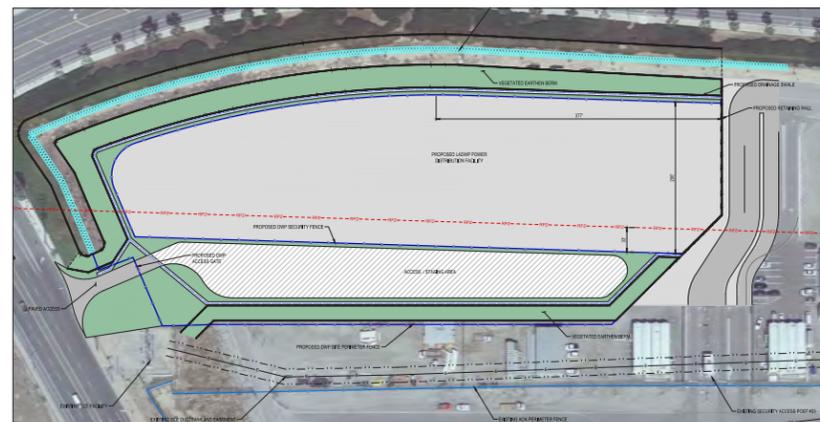
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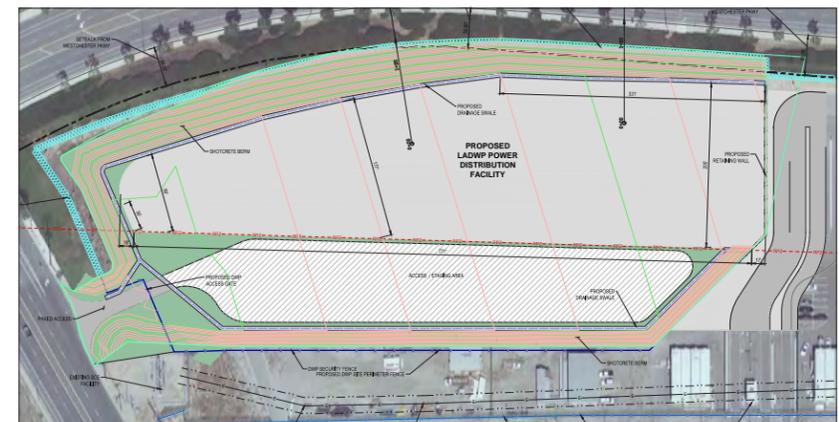
BASE CASE SITE LAYOUT



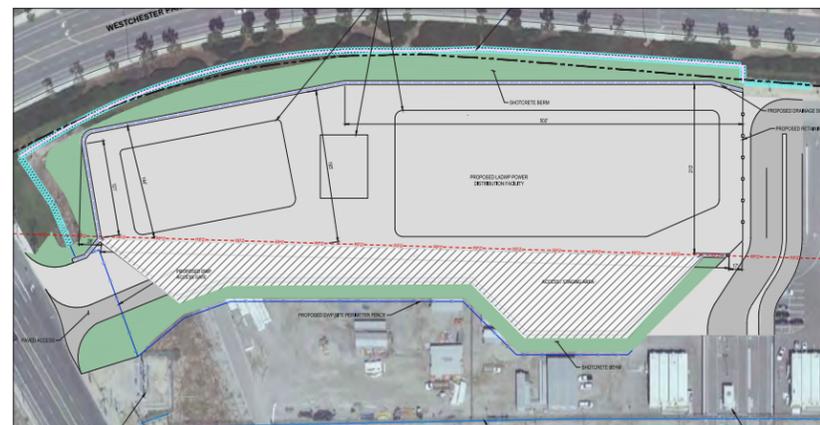
SITE LAYOUT ALTERNATIVE 1



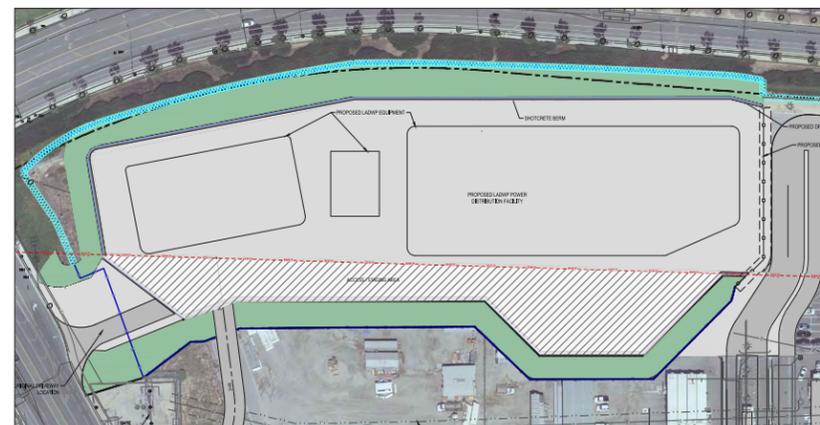
SITE LAYOUT ALTERNATIVE 2



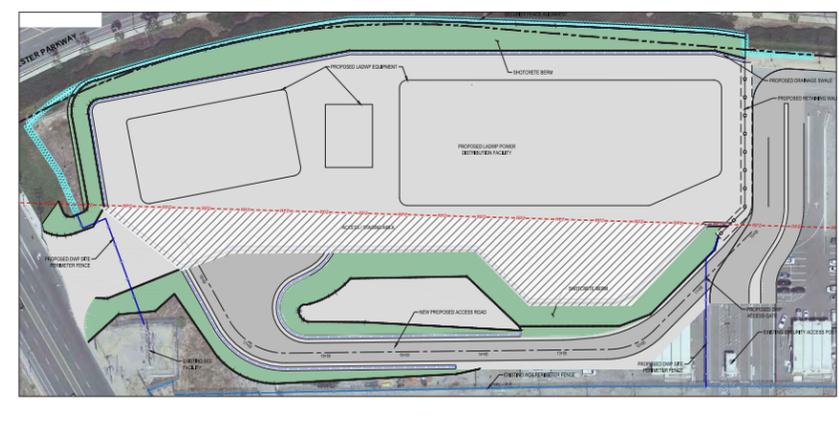
SITE LAYOUT ALTERNATIVE 3



SITE LAYOUT ALTERNATIVE 4



SITE LAYOUT ALTERNATIVE 5



SITE LAYOUT ALTERNATIVE 6

SOURCES: Los Angeles World Airports, Project Definition Booklet, Power Distribution Facility, July, 2017; Ricondo & Associates, Inc., January 2018.

EXHIBIT A-1

Alternative 3E – Site Layout Alternatives

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Appendix B
Agency Coordination





U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

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15000 Aviation Boulevard
Los Angeles, CA 90261

March 27, 2018

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

**Proposed Los Angeles International Airport Receiving Station X
Los Angeles International Airport, Los Angeles, Los Angeles County, California
Section 106 Coordination**

The City of Los Angeles, through its Aviation Department of Los Angeles World Airports (LAWA) and the Federal Aviation Administration (FAA) are preparing Federal environmental documentation to comply with the *National Environmental Policy Act of 1969* (NEPA) for the construction and operation of a proposed receiving station (Receiving Station X) at Los Angeles International Airport (LAX). The Federal action is the approval of LAWA's Airport Layout Plan.

The purpose of the proposed project is to develop a new Receiving Station X (RS-X) to address power reliability issues, provide redundancy in the case of power outages, and provide additional electrical capacity for future infrastructure projects at LAX. The proposed RS-X would provide redundant power to all major airport facilities, including FAA navigation systems, airfield lighting, and the Airport Traffic Control Tower. The new RS-X is envisioned to be a purpose-built structure, designed to accommodate 160 MVA redundant capacity.

Description of the Direct Effects APE for the proposed undertaking: RS-X Project. The enclosed *Figure 1: Area of Potential Effect* shows the Physical Disturbance Area for the proposed RS-X project. The APE occupies approximately 3 to 3.5 acres and is made up of the RS-X location in the northwest quadrant and its accompanying cabling duct banks running along Pershing Drive and World Way West.

- The proposed RS-X would be located in the northwest corner of LAX property, on the southeast corner of the intersection of Westchester Parkway and Pershing Drive. This area is currently occupied by the Midfield Satellite Concourse project management office facilities and parking. The RS-X would be a concrete and masonry, single-story control room building with a footprint of approximately

4,800 square feet. To the west and the east of the RS-X would be outdoor electrical equipment, occupying approximately 22,800 and 63,400 square feet, respectively. Excavation and grading of the site would be required to adhere to the maximum allowable height limits of 65 feet for electrical equipment and structures to minimize impacts to arrival and departure aircraft operations. Approximately 150,000 cubic feet of soil would be removed with a maximum excavation depth of 30 feet. Existing 230-kilovolt (KV) LADWP power lines, located on the west side of LAX along Pershing Drive, would feed the new RS-X.

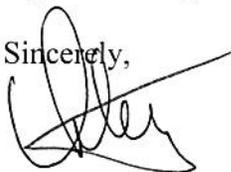
- The proposed project would include underground pathways along Pershing Drive and World Way West to connect the new RS-X to the midfield area of the airfield. Four new 230 KV pathways 110 linear feet in length would connect from the site to existing 230 KV duct banks that run under the southbound lanes of Pershing Drive. Two new 34.5 KV pathways would traverse underground from the site following the existing service road within the Air Operations Area (AOA) parallel to Pershing Drive, turning east and running parallel to and south of World Way West, for a total linear length of 16,330 feet.
- Additionally, new utility connections to existing storm and wastewater drains, natural gas, communications, and other related utility services would be required to support the operations of the proposed RS-X.

FAA used the boundaries of the entire area that would have physical disturbance to delineate the APE. FAA determined these boundaries through consultation with LAWA on the extent of the proposed RS-X project. FAA will include this information in the environmental documentation for the proposed project. LAWA has advised FAA that it plans to use its existing construction staging areas primarily within the proposed project area.

FAA is seeking comments from your office on the acceptability of the APE's under Title 36, Code of Federal Regulations Section 800.4 *Identification of Historic Properties*. Pursuant to Title 36, Code of Federal Regulations, Section 800.4, the FAA is seeking concurrence with the APE for the proposed undertaking from the California State Historic Preservation Office.

If you have any further questions about this matter, please call me at 310/725-3615.

Sincerely,



Victor Globa
Environmental Protection Specialist

Enclosure

[Preliminary Draft for Discussion Purposes Only]



FIGURE 1

LEGEND

Area of Potential Effect (APE)

SOURCE: Los Angeles World Airports, August 2014 (aerial photography for visual reference only - may not be to scale).

PREPARED BY: Ricordo & Associates, Inc., January 2018



NORTH

0 800 ft.

Drawing: P:\LA\ACAD\LAAX_PDF_Project_Description\Exhibits_2018\105.dwg; Layout: 02 - PDF Site Access; Sebicks (2) Plotted: Jan 5, 2018, 11:56AM

Receiving Station X
Environmental Assessment

Area of Potential Effect (APE)



OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo@parks.ca.gov www.ohp.parks.ca.gov

Julianne Polanco, State Historic Preservation Officer

April 9, 2018

SHPO Reference #: FAA_2018_0330_001

Victor Globa
Environmental Protection Specialist
FAA, Western Pacific Region
Los Angeles Airports District Office
15000 Aviation Boulevard
Los Angeles, CA 90261

RE: Proposed Los Angeles International Airport Receiving Station X, Los Angeles International Airport, Los Angeles, Los Angeles County, California

Dear Mr. Globa:

The Federal Aviation Administration (FAA) is seeking comments from the California State Historic Preservation Officer (SHPO) on the adequacy of the Area of Potential Effects (APE) for the above-referenced undertaking in advance of identifying historic properties and determining the undertaking's potential to affect historic properties.

Los Angeles International Airport (LAX) plans to develop a new Receiving Station X (RS-X) to address power reliability issues, provide redundancy in the case of power outages, and provide additional electrical capacity for future LAX infrastructure projects. The Midfield Satellite Concourse project currently use the proposed project are to house their management facilities and parking.

The FAA defines the APE for this undertaking as a 3 to 3.5-acre area encompassing the proposed RS-X location and a cable/duct bank route running along Pershing Drive and World West Way. The APE also includes excavation of up to 30-feet below surface level, 16,330 linear feet of trenching, and the establishment of new utility connections to storm and wastewater drains, natural gas, communications, and other related utility services. This area, established through consultation with Los Angeles World Airports, consists of all areas of physical disturbance. Los Angeles World Airports has advised FAA that it plans to use established construction staging areas.

After reviewing the information submitted, SHPO finds APE adequate to account for direct and indirect effects to historic properties. If the FAA has any questions or

April 9, 2018

Page 2 of 2

concerns, please contact the State Historian Tristan Tozer at (916) 445-7027 or via e-mail at Tristan.Tozer@parks.ca.gov.

Sincerely,

A handwritten signature in blue ink, consisting of a large, stylized 'J' followed by a horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer



U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

Federal Aviation Administration
15000 Aviation Boulevard
Lawndale, CA 90261

April 30, 2018

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

**Proposed Los Angeles International Airport Receiving Station X
Los Angeles International Airport, Los Angeles, Los Angeles County, California
Section 106 Coordination No.: FAA_2018_0330_001**

The City of Los Angeles, through its Airport Department – Los Angeles World Airports (LAWA) and the Federal Aviation Administration (FAA) are preparing federal environmental documentation for the proposed undertaking of construction and operation of Receiving Station X (RS-X) at Los Angeles International Airport (LAX).

Your office previously concurred with FAA's Area of Potential Effects (APE) for the proposed undertaking for the proposed RS-X project by letter dated April 9, 2018. FAA is providing the following background information to assist you in reviewing FAA's determinations of eligibility and findings of effect related to the proposed undertaking.

1. Background Information.

The purpose of the proposed project is to develop a new Receiving Station X (RS-X) to address power reliability issues, provide redundancy in the case of power outages, and provide additional electrical capacity for future infrastructure projects at LAX. The proposed RS-X would provide redundant power to all major airport facilities, including FAA navigation systems, airfield lighting, and the Airport Traffic Control Tower. The new RS-X is envisioned to be a purpose-built structure, designed to accommodate 160 MVA redundant capacity.

The proposed RS-X would be located in the northwest corner of LAX property, on the southeast corner of the intersection of Westchester Parkway and Pershing Drive. This

area is currently occupied by the Midfield Satellite Concourse project management office facilities and parking.

Elements of the proposed RS-X project include:

- A concrete and masonry, single-story control room building with a footprint of approximately 4,800 square feet. To the west and the east of the RS-X would be outdoor electrical equipment, occupying approximately 22,800 and 63,400 square feet, respectively. Excavation and grading of the site would be required to adhere to the maximum allowable height limits of 65 feet for electrical equipment and structures to minimize impacts to arrival and departure aircraft operations. Approximately 150,000 cubic feet of soil would be removed with a maximum excavation depth of 30 feet. Existing 230-kilovolt (KV) LADWP power lines, located on the west side of LAX along Pershing Drive, would feed the new RS-X.
- Underground pathways along Pershing Drive and World Way West to connect the new RS-X to the midfield area of the airfield. Four new 230 KV pathways 110 linear feet in length would connect from the site to existing 230 KV duct banks that run under the southbound lanes of Pershing Drive. Two new 34.5 KV pathways would traverse underground from the site following the existing service road within the Air Operations Area (AOA) parallel to Pershing Drive, turning east and running parallel to and south of World Way West, for a total linear length of 16,330 feet.
- Additionally, new utility connections to existing storm and wastewater drains, natural gas, communications, and other related utility services would be required to support the operations of the proposed RS-X.

The APE occupies approximately 3 to 3.5 acres and is made up of the RS-X location in the northwest quadrant and its accompanying cabling duct banks running along Pershing Drive and World Way West. As a result, LAWA will adhere to its Archaeological Treatment Plan.

2. Native American Consultation. FAA received a listing of Native American contacts for the proposed undertaking from the State of California Native American Heritage Commission for the proposed SAAP project at LAX. The commission recommended FAA contact the Gabrielino Band of Mission Indians – Kizh Nation, and four different representatives of the Gabrielino-Tongva Tribe.

On February 16, 2018, FAA provided project information about the proposed undertaking and APE for LAMP to the tribal contacts provided by the California Native American Heritage Commission using the U.S. Mail. The FAA received a request from the Gabrielino Band of Mission Indians – Kizh Nation. On April 26, 2018, the FAA met with representatives of the Gabrielino Band of Mission Indians – Kizh Nation. The Tribal members requested that any ground disturbing activities would require a Native American monitor. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives has indicated that the site has a low potential for cultural or archeological resources.

3. National Register Eligibility Determinations. Results of the records search conducted for the recent LAX Landside Access Modernization Program Environmental Assessment from the South Central Coastal Information Center (SCCIC) indicated no archaeological resources have been recorded at or within a half-mile radius of the proposed SAAP project site. The RS-X project site is a highly disturbed area that has long been, and is currently being, used for airport uses. Any resources that may have existed on the site at one time are likely to have been disturbed.

In summary, the FAA has determined there are no properties that are listed or eligible for listing in the NRHP for the proposed undertaking. Thus, FAA finds the proposed undertaking will not affect any properties listed or eligible for listing on the NRHP.

FAA seeks the California SHPO's concurrence with these determinations and finding.

If you have any further questions about this matter, please call me at (310) 725-3637.

Sincerely,



Victor Globa
Environmental Protection Specialist

Enclosures via Compact Disc

cc: E. Quintanilla – LAWA



OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo@parks.ca.gov www.ohp.parks.ca.gov

Julianne Polanco, State Historic Preservation Officer

May 30, 2018

SHPO Reference #: FAA_2018_0330_001

Victor Globa
Environmental Protection Specialist
FAA, Western Pacific Region
Los Angeles Airports District Office
15000 Aviation Boulevard
Los Angeles, CA 90261

RE: Proposed Los Angeles International Airport Receiving Station X, Los Angeles International Airport, Los Angeles, Los Angeles County, California

Dear Mr. Globa:

The Federal Aviation Administration (FAA) is consulting with the California State Historic Preservation Officer (SHPO) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended. The FAA is requesting SHPO concurrence with a finding of no historic properties affected.

The City of Los Angeles, through its airport department, Los Angeles World Airports Department plans, in cooperation with the FAA, to build an airport receiving station. Project components include:

- Construction of a single-story control room building with a footprint of approximately 4,800 square feet. Outdoor electrical equipment will occupy approximately 83,000 square feet of land around the control room building area. Approximately 150,000 cubic feet of soil will be removed from the construction area, requiring up to 30 feet of excavation.
- Construction of underground pathways along Pershing Drive and World Way West to connect the building to the midfield area of the airfield. The total linear feet of these pathways will total 16,330 feet.
- Construction of utility connections to storm and wastewater drains, natural gas, communications, and other related utility services.

In previous round of consultation, SHPO commented on the project's Area of Potential Effects (APE), noting that the APE appears adequate to account of direct and indirect effects to historic properties. Since this time, the FAA has provided evidence of Native American consultation as part of its identification efforts. On April 26, 2018, the FAA

met with representatives of the Gabrielino Band of Mission Indians, Kizh Nation. The tribal members requested that any ground disturbing activities would require Native American monitoring, with the condition that on-site monitoring shall end when the site grading and excavation are completed, or when the tribal representatives have indicated that the site has a low potential for cultural or archaeological resources.

After reviewing the FAA's identification efforts, SHPO concurs with a finding of no historic properties affected. Please be reminded that in the event of an inadvertent discovery or a change in the scale or scope of the project, the FAA may have further consultation responsibilities under 36 CFR Part 800.

If the FAA has any questions or concerns, please contact the State Historian Tristan Tozer at (916) 445-7027 or via e-mail at Tristan.Tozer@parks.ca.gov.

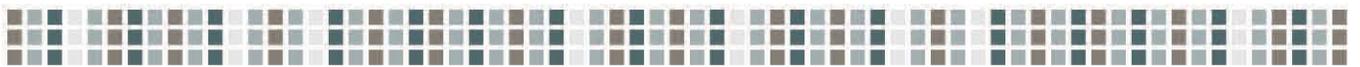
Sincerely,

A handwritten signature in blue ink, appearing to read 'Julianne Polanco', with a long horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer

Appendix C

Land Use Assurance Letter





Los Angeles
World Airports

August 27, 2018

Mr. Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
777 S. Aviation Boulevard, Suite 150
El Segundo, CA 90245

LAX

Van Nuys

City of Los Angeles

Eric Garcetti
Mayor

**Board of Airport
Commissioners**

Sean O. Burton
President

Valeria C. Velasco
Vice President

Jeffery J. Daar
Gabriel L. Eshaghian
Beatrice C. Hsu
Thomas S. Sayles
Dr. Cynthia A. Telles

Deborah Flint
Chief Executive Officer

**SUBJECT: PROPOSED RECEIVING STATION "X" DWP FACILITY
LOS ANGELES INTERNATIONAL AIRPORT, CA
LAND USE ASSURANCE LETTER**

Dear Mr. Globa,

The Los Angeles World Airports, a department of the City of Los Angeles, California makes the following statement of land use assurance as required by 49 U.S.C. § 47107(a)(10), formerly Section 511(a)(5) of the Airport and Airway Improvement Act of 1982, as amended.

Los Angeles International Airport is physically located within the City of Los Angeles, California, which has authority to regulate and control land use and zoning within the City of Los Angeles municipal limits. Communities bordering the airport to the east are the cities of Inglewood and Hawthorne, and the unincorporated areas of the County of Los Angeles: Del Aire and Lennox. South of the airport is the City of El Segundo.

The City of Los Angeles provides assurance, that appropriate action, within the authority of the City, including encouragement of the adoption of zoning laws, has been and will be taken, to the extent reasonable to restrict the use of land adjacent or in the immediate vicinity of the Los Angeles International Airport to activities and purposes compatible with normal airport operations both existing and in the future. Within the municipal limits of the City of Los Angeles, heights of structures and natural objects in the vicinity of the airport are regulated by ordinances described within the Los Angeles Municipal Code. Section 12.50 of the Planning and Zoning Code includes Airport Hazard Maps and regulations relating to height limits. The ordinance relating to this Section of the Code, was written and adopted in 1971 and amended in 2000, in conformance with Federal Aviation Regulation, Part 77.



Mr. Globa
August 27, 2018
Page 2

Proposed Receiving Station "X" DWP Power Facility
Los Angeles International Airport, CA
Land Use Assurance Letter

The City of Los Angeles works with the adjacent municipalities having land use jurisdiction over land adjacent to or in the immediate vicinity of the Airport and encourages the adoption of zoning laws, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to activities and purposes compatible with airport operations. The City of Los Angeles is involved with these neighboring communities and municipalities in promoting compatible land uses as evidenced by Part 150 noise mitigation efforts. The City of Los Angeles comments on proposed land uses development in neighboring communities as it affects the airport at every available opportunity. The City of Los Angeles is committed to every feasible measure to ensure land use compatibility with its surrounding neighborhoods.

If you have any questions regarding this matter, please contact Evelyn Quintanilla of my staff at 424-646-5188 or by email at equintanilla@lawa.org.

Sincerely,



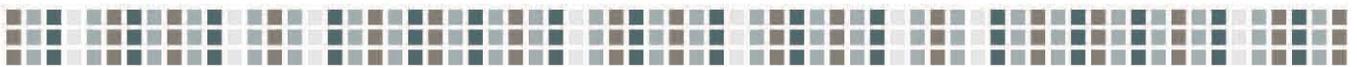
Samantha Bricker
Deputy Executive Director

EQ:BB:oc

cc: Evelyn Quintanilla

Appendix D

Air Quality



Appendix D Air Quality

D.1 Introduction

This appendix summarizes the methods used to estimate emissions of carbon monoxide (CO), volatile organic compounds (VOCs), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter less than ten microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and greenhouse gases (GHGs)¹ in support of the Environmental Assessment for the construction of a new power receiving station (the Proposed Action) at Los Angeles International Airport (the Airport). The construction emissions analysis was conducted to develop emissions inventories pursuant to the National Environmental Policy Act (NEPA). In addition, the analysis was conducted to determine whether emissions associated with construction activities would exceed applicable *de minimis* thresholds as documented in the U.S. Environmental Protection Agency's (USEPA) general conformity regulations. The proposed construction project is estimated to begin in March 2019 and to be completed by January 2022. Therefore, pollutant emissions were estimated for the following construction years: 2019, 2020, 2021, and 2022.

D.2 Methodology

The California Emissions Estimator Model (CalEEMod) was used to estimate the construction emissions associated with the Proposed Action. CalEEMod was originally developed for the California Air Pollution Officers Association in collaboration with the South Coast Air Quality Management District (SCAQMD) as a modeling tool to assist local public agencies with estimating air quality impacts from land use projects. The model estimates construction, area source, and operational emissions from a wide variety of land use development projects, such as residential neighborhoods, shopping centers, office buildings, etc. The model also identifies mitigation measures and associated emission reductions. CalEEMod calculates emissions for CO, reactive organic gases (ROG),² NO_x, sulfur dioxide (SO₂),³ PM₁₀, PM_{2.5}, carbon dioxide (CO₂), methane (CH₄), and nitrous

¹ Emissions of GHGs are quantified in terms of carbon dioxide (CO₂) equivalent (CO_{2e}). CO_{2e} represents all CO₂ emissions plus methane (CH₄) and nitrous oxide (N₂O) as adjusted by their corresponding Global Warming Potential (GWP) weighted value. The GWP values are based on the 2007 Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (available at https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_full_report.pdf), and are consistent with the 2014 California Air Resources Board (CARB) Scoping Plan Update (available at <https://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>).

² For purposes of this analysis, it was assumed that estimates of VOC emissions are equal to calculated emissions of ROG.

³ For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO₂.

oxide (N₂O) for both on-road and off-road construction sources. The model uses the California Air Resources Board's (CARB) EMFAC2014 model for on-road vehicle emissions and the CARB's OFFROAD2011 model for off-road vehicle emissions.

The EMFAC2014 model calculates emission rates from all motor vehicles, ranging from passenger cars to heavy-duty trucks, operating on highways, freeways, and local roads in California. In CalEEMod, default or user-defined vehicle activity data is used to derive total vehicle miles traveled (VMT), which is multiplied by appropriate EMFAC2014 emission factors to calculate on-road emissions. EMFAC2014 emission factors are region/county specific. For purposes of this analysis, emission factors specific to the Los Angeles-South Coast County area were selected in CalEEMod. All emission factors account for emissions from start, running, and idling exhaust. In addition, ROG (VOC) emission factors include running loss emissions, while the PM₁₀ and PM_{2.5} emission factors include tire and brake wear. CalEEMod also calculates on-road fugitive dust associated with paved and unpaved roads. Default values for parameters required by CalEEMod to calculate fugitive dust from on-road vehicles are based on recommendations in USEPA AP-42.

To estimate off-road construction equipment-related exhaust emissions, CalEEMod uses the OFFROAD2011 model to generate emission factors for construction equipment, which are based on an average fleet mix that accounts for the turnover rate and average emissions for specific types of construction equipment. Depending on the construction phase, CalEEMod generates default values for number and types of construction equipment, horsepower, load factor, and daily operating hours. The model allows the user to override these values as appropriate, although default values are used for purposes of this analysis. For each piece of equipment selected, CalEEMod generates an emissions estimate using the following equation:

$$\text{Equipment Emissions (pounds/day)} = \# \text{ of pieces of equipment} * \text{grams per brake horsepower-hour} * \text{equipment horsepower} * \text{hours/day} * \text{load factor}$$

In association with off-road construction equipment, CalEEMod calculates fugitive dust (PM₁₀ and PM_{2.5}) emissions from material movement, including haul road grading, earth bulldozing, and truck loading. Fugitive dust emissions from material movement are calculated using the methodology described in USEPA AP-42.

Information used in developing CalEEMod inputs for this analysis was obtained from the description of the Proposed Action included in Section 2 of this Environmental Assessment.

D.3 Construction Activity

For purposes of this analysis, the Proposed Action was broken into the following elements, each of which was evaluated separately in CalEEMod:

- **Demolition and earthwork** – This element includes all activities related to preparing the site for construction, paving, and equipment installation. Specific elements included under site preparation are as follows:

- Pavement demolition – Approximately 274,000 square feet of existing pavement within the project area was assumed to be demolished and exported from the site.
 - Building demolition – Removal of an existing building comprising approximately 26,000 square feet.
 - Grading – The entire site was assumed to be graded.
 - Excavation – Excavation of approximately 150,000 cubic yards would be required and all excavated material was assumed to be hauled off-site.
 - Trenching – Trenching of 16,440 linear feet both on-site (110 linear feet) and around the west side of the Airport (16,330 linear feet) to accommodate electrical duct banks. All trenching was assumed to a depth of 6 feet.
- **Receiving station construction** – Construction of the receiving station facility, totaling approximately 4,800 square feet.
 - **Paving** – Paving of vehicle parking and equipment pads, totaling approximately 251,000 square feet. This element also includes pavement striping and installation of electrical equipment.

The overall duration of each project element was calculated by CalEEMod based on the area or quantity of construction and supplemented by estimates from prior project experience related to various elements. For emissions modeling purposes, it was assumed that all construction activity would occur from March 2019 to January 2022. The distribution of areas and workdays by construction year was derived by assuming that each project element would be completed consecutively.

CalEEMod is capable of estimating emissions for several types of construction activities (phases) including demolition, site preparation, grading, building construction, architectural coating, and paving. Each phase has one or more unique components, such as fugitive dust, off-road construction exhaust, on-road vehicle exhaust, worker trips, vendor trips, and off-gassing. CalEEMod estimates emissions separately by phase and by phase component. Each component is assumed to generate emissions throughout the entire phase length. The lengths of each applicable construction phase for purposes of this air quality analysis were assumed as shown in **Table D-1**.

Table D-1: Proposed Action Schedule by Construction Phase

PROJECT ELEMENT AND PHASE	CALEEMOD PHASE TYPE	WORKDAYS				TOTAL
		2019	2020	2021	2022	
Demolition and Earthwork						
Pavement Demolition	Site Preparation	91	0	0	0	91
Building Demolition	Demolition	10	0	0	0	10
Grading	Grading	30	0	0	0	30
Excavation	Grading	75	0	0	0	75
Trenching	Trenching	0	262	149	0	411
		206	262	149	0	617
Receiving Station Construction						
Building Construction	Building Construction	0	0	100	0	100
		0	0	100	0	100
Paving						
Paving	Paving	0	0	12	8	20
Pavement Striping	Architectural Coating	0	0	0	10	10
Equipment Installation	Building Construction	0	0	0	3	3
		0	0	12	21	33
Total Workdays		206	262	261	21	750

NOTES:

Totals may not sum due to rounding.

1/ Pavement demolition days assume 3,000 square feet of demolition per day, based on prior project experience.

2/ Excavation days assume 2,000 cubic yards of excavation per day, consistent with the LAX Northside EIR.

3/ Trenching days assume 40 linear feet of trenching per day, based on prior project experience.

SOURCES: Ricondo & Associates, Inc., February 2018, based on output from CalEEMod, except as noted above.

The following sections identify and describe the assumptions used for estimating emissions associated with each type of construction phase/activity assumed for this analysis. For mitigation purposes, all off-road construction equipment associated with the Proposed Action is assumed to meet Tier 4 emissions standards, consistent with the LAX Northside EIR.

D.3.1 SITE PREPARATION

CalEEMod does not specifically include activity assumptions for the removal of pavement. For modeling purposes, pavement demolition was assigned to the site preparation phase within CalEEMod. In estimating site preparation emissions, CalEEMod calculates emissions separately for each of the following components:

- **Fugitive dust emissions** – For estimating fugitive dust (PM₁₀ and PM_{2.5}) emissions associated with site preparation activity, CalEEMod uses a methodology described in Section 11.9, Western Surface Coal Mining, of USEPA AP-42.
- **Off-road construction equipment emissions** – Exhaust emissions from site preparation activities are generated by the operation of off-road construction equipment such as bulldozers, backhoes, and concrete/industrial saws. For this construction phase, default numbers, types, and operating specifications (load factor, horsepower, and daily operating hours) of construction equipment as suggested in CalEEMod were assumed.
- **On-road construction equipment emissions** – For pavement demolition, truck trips were assumed to haul the demolished pavement material off-site. With an estimated area of 274,000 square feet of existing pavement to remove at an assumed depth of 5 inches, 4,228 cubic yards of pavement, weighing an estimated 8,457 tons, was estimated to be hauled off-site. A total of 846 hauling trips were calculated assuming a truck capacity of 20 tons (default CalEEMod assumption) and accounting for roundtrips. Default assumptions for haul trip vehicle type (heavy-heavy-duty trucks), travel distance (20 miles), and average speed (40 miles per hour) were assumed.
- **Construction worker commute trips** – For site preparation, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker commute travel distance (14.7 miles) and speed (40 miles per hour) were assumed.

D.3.2 GRADING

Grading emissions are produced from equipment used to cut and fill the land to ensure that the proper base and slope is created for the pavement layer (if applicable). Grading activity was assumed to be applied to overall site grading and excavation. In estimating grading emissions, CalEEMod calculates emissions separately for each of the following components:

- **Fugitive dust emissions** – For estimating fugitive dust emissions associated with grading activity, CalEEMod uses a methodology described in Section 11.9, Western Surface Coal Mining, of USEPA AP-42.
- **Off-road construction equipment emissions** – On-site grading exhaust emissions are generated by the operation of off-road construction equipment, such as scrapers, bulldozers, loaders, and excavators. For this construction phase, default numbers, types, and operating specifications of construction equipment as suggested in CalEEMod were assumed.
- **On-road construction equipment emissions** – For grading activity, on-road construction equipment emissions consist of truck trips to haul soil to or from the site for cut/fill operations. Grading of the project site was assumed to result in the excavation and export of 150,000 cubic yards of soil. A total of 15,000 hauling trips were calculated assuming a truck capacity of 16 cubic yards (default CalEEMod assumption) and accounting for roundtrips. Default assumptions for haul trip vehicle type, travel distance, and average speed were assumed.

- **Construction worker commute trips** – For grading, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment (vehicles and machines) selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker commute travel distance (14.7 miles) and speed (40 miles per hour) were assumed.

D.3.3 TRENCHING

Trenching activity was modeled to represent the excavation of an estimated 16,440 linear feet of trenches. CalEEMod does not include default construction equipment for trenching activities. For this analysis, equipment lists from prior project experience were used to select applicable off-road equipment and daily operating times.

- **Fugitive dust emissions** – For estimating fugitive dust emissions associated with trenching activity, CalEEMod uses a methodology described in Section 11.9, Western Surface Coal Mining, of USEPA AP-42.
- **Off-road construction equipment emissions** – This equipment included loaders/backhoes (4 hours per day), plate compactors (4 hours per day), sweepers/scrubbers (2 hours per day), and trenchers (4 hours per day). Default specifications (load factor and horsepower) were assumed for each piece of equipment.
- **On-road construction equipment emissions** – No on-road construction equipment emissions were estimated for trenching. All excavated material was assumed to be used for backfilling once the duct banks are installed.
- **Construction worker commute trips** – For trenching, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker commute travel distance and speed were assumed.

D.3.4 BUILDING CONSTRUCTION

The building construction phase involves the actual construction of physical facilities, such as the RS-X facility. This phase was also used to model emissions associated with installation of equipment on the site. In estimating building construction emissions, CalEEMod calculates emissions separately for each of the following components:

- **Off-road construction equipment emissions** – Exhaust emissions from building construction activities are generated by the operation of off-road construction equipment such as cranes, forklifts, backhoes, welders, and generators. For this construction phase, default numbers, types, and operating specifications of construction equipment as suggested in CalEEMod were assumed.
- **On-road construction equipment emissions** – For construction of the RS-X facility and equipment installation, daily vendor trips were calculated by CalEEMod to account for the delivery of construction supplies and materials. Default assumptions for vehicle type, travel distance and average speed were assumed.

- **Construction worker commute trips** – For building construction, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker commute travel distance and speed were assumed.

D.3.5 PAVING

Emissions generated from paving activities are associated with vehicle parking areas and paving of the equipment pads/foundations. In estimating paving emissions, CalEEMod calculates emissions separately for each of the following components:

- **Off-road construction equipment emissions** – On-site paving exhaust emissions are generated by the operation of off-road construction equipment, such as pavers, rollers, and other paving equipment. For this construction phase, default numbers, types, and operating specifications of construction equipment as suggested in CalEEMod were assumed, given an estimated paving area of 251,000 square feet.
- **On-road construction equipment emissions** – For paving activity, on-road construction equipment emissions consist of truck trips to haul paving material to the site. With a pavement area of 251,000 square feet at an assumed depth of 10 inches, a total of 7,747 cubic yards of paving material (asphalt and concrete) was assumed to be hauled to the site. A total of 968 hauling trips were calculated assuming a truck capacity of 16 cubic yards (default CalEEMod assumption) and accounting for roundtrips. Default assumptions for haul trip vehicle type, travel distance, and average speed were assumed.
- **Construction worker commute trips** – For paving, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment (vehicles and machines) selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker travel distance and speed were assumed.

D.3.6 ARCHITECTURAL COATING

CalEEMod estimates ROG/VOC emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. In estimating emissions from the application of architectural coatings, CalEEMod calculates emissions separately for each of the following components:

- **Off-gas/evaporative emissions** – For purposes of this analysis, evaporative emissions were assumed to result from the application of paint (stripes) to parking pavement. The emission factors used by CalEEMod are based on a VOC content of 100 grams per liter of paint and an application rate of 180 square feet per gallon. CalEEMod also calculates evaporative emissions resulting from the laying and drying of asphalt pavement.
- **Construction worker commute trips** – For architectural coating activities, default values for number of workers, worker commute travel distance, and speed were assumed. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks.

D.3.7 DEMOLITION

The Proposed Action includes demolition of an existing building of approximately 26,000 square feet. Total tonnage of demolished building material was calculated by CalEEMod by assuming a factor of 1 square-foot of building area is equivalent to 0.046 tons. In estimating demolition emissions, CalEEMod calculates emissions for each of the following components:

- **Fugitive dust emissions** – Fugitive dust emissions are assumed to be generated as a result of demolition activities. CalEEMod estimates fugitive dust generated by demolition activities by multiplying the weight of demolished material (in tons) by an emission factor of 0.0011 pounds of PM₁₀ per ton and 0.00017 pounds of PM_{2.5} per ton. The model also calculates fugitive emissions from loading demolished material into trucks.
- **Off-road construction equipment emissions** – Exhaust emissions from demolition activities are generated by the operation of off-road construction equipment, such as cranes, bulldozers, and loaders. For this construction phase, default numbers, types, and operating specifications of construction equipment as suggested in CalEEMod were assumed.
- **On-road construction equipment emissions** – CalEEMod estimates exhaust emissions from on-road vehicles used to haul demolished materials away from the construction site. Based on the weight of demolished material, the model generates default information regarding demolition hauling. All model defaults were used for purposes of this analysis. The total weight of the demolished building material was calculated at 1,196 tons, resulting in 120 roundtrips. CalEEMod assumes a hauling round trip of 20 miles and a truck capacity of 20 tons, using a heavy-heavy duty truck.
- **Construction worker commute trips** – For demolition, CalEEMod estimates the number of workers as 125 percent of the total number of construction equipment selected. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. Default values for worker commute travel distance and speed were assumed.

D.4 Summary of Construction Emissions

A summary of total construction-related emissions by construction year for the Proposed Action is presented in **Table D-2**. The table also compares the maximum annual emissions level for each pollutant to applicable *de minimis* thresholds. As shown, maximum annual emissions for all pollutants are below applicable *de minimis* levels and, therefore, development of a general conformity determination is not required.

Table D-2: Proposed Action Construction Emissions Summary

YEAR	EMISSIONS (TONS/YEAR) ^{1/}						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO _{2E}
2019	3.3544	0.1504	2.9288	0.0110	1.0713	0.5433	1,041.2106
2020	0.4365	0.0133	0.0736	0.0007	0.0153	0.0048	60.3644
2021	0.7631	0.0239	0.1650	0.0014	0.0087	0.0067	121.9425
2022	0.1298	0.0428	0.0653	0.0004	0.0114	0.0033	32.0432
Maximum	3.3544	0.1504	2.9288	0.0110	1.0713	0.5433	1,041.2106
<i>De Minimis Threshold</i>	<i>100</i>	<i>10</i>	<i>10</i>	<i>100</i>	<i>100</i>	<i>70</i>	
<u>Difference</u>							
2019	(96.6456)	(9.8496)	(7.0712)	(99.9890)	(98,9287)	(69.4567)	
2020	(99.5635)	(9.9867)	(9.9264)	(99.9993)	(99.9847)	(69.9952)	
2021	(99.2369)	(9.9761)	(9.8350)	(99.9987)	(99.9913)	(69.9933)	
2022	(99.8702)	(9.9572)	(9.9347)	(99.9997)	(99.9886)	(69.9967)	
Significant?	No	No	No	No	No	No	

NOTES:

1/ Annual emissions represent mitigated emissions with off-road construction equipment assumed to comply with Tier 4 emissions standards.

CO = carbon monoxide

SO_x = oxides of sulfur

VOC = volatile organic compound

PM₁₀ = particulate matter less than ten microns in diameter

NO_x = oxides of nitrogen

PM_{2.5} = particulate matter less than 2.5 microns in diameter

CO_{2e} = carbon dioxide equivalent (in metric tons per year)

SOURCES: Ricondo & Associates, Inc., February 2018, based on CalEEMod modeling.

A summary of construction-related emissions by project element and phase for the Proposed Action is presented in **Tables D-3**.

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Table D-3: Proposed Action Construction Emissions Summary by Project

PROJECT ELEMENT AND PHASE	EMISSIONS (TONS/YEAR)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
Demolition and Earthwork							
Pavement Demolition (2019)	1.5656	0.0377	0.2597	0.0028	0.5720	0.3109	254.8131
Building Demolition (2019)	0.1928	0.0049	0.0352	0.0004	0.0162	0.0032	33.0791
Grading (2019)	0.2680	0.0096	0.0712	0.0005	0.0982	0.0528	42.6516
Excavation (2019)	1.3280	0.0982	2.5627	0.0073	0.3850	0.1765	710.6668
Trenching (2020)	0.4365	0.0133	0.0736	0.0007	0.0153	0.0048	60.3644
Trenching (2021)	0.2458	0.0073	0.0415	0.0004	0.0087	0.0027	34.0955
	4.0367	0.1710	3.0439	0.0121	1.0952	0.5508	1,135.6705
Receiving Station Construction							
Building Construction (2021)	0.3914	0.0076	0.0355	0.0006	0.0024	0.0013	52.6696
	0.3914	0.0076	0.0355	0.0006	0.0024	0.0013	52.6696
Paving							
Paving (2021)	0.1259	0.0091	0.0880	0.0004	0.0089	0.0027	35.1774
Paving (2022)	0.0837	0.0059	0.0548	0.0003	0.0080	0.0023	23.2565
Pavement Striping (2022)	0.0128	0.0355	0.0010	0.0000	0.0012	0.0003	2.2813
Equipment Installation (2022)	0.0333	0.0013	0.0096	0.0001	0.0022	0.0007	6.5054
	0.2557	0.0518	0.1533	0.0007	0.0204	0.0060	67.2206
Total 2019	3.3544	0.1504	2.9288	0.0110	1.0713	0.5433	1,041.2106
Total 2020	0.4365	0.0133	0.0736	0.0007	0.0153	0.0048	60.3644
Total 2021	0.7631	0.0239	0.1650	0.0014	0.0200	0.0067	121.9425
Total 2022	0.1298	0.0428	0.0653	0.0004	0.0114	0.0033	32.0432
Total Proposed Action	4.6838	0.2304	3.2327	0.0134	1.4108	0.5581	1,255.5607

NOTES:

CO = carbon monoxide

SO_x = oxides of sulfur

VOC = volatile organic compound

PM₁₀ = particulate matter less than ten microns in diameterNO_x = oxides of nitrogenPM_{2.5} = particulate matter less than 2.5 microns in diameterCO_{2e} = carbon dioxide equivalent (in metric tons per year)

Totals may not sum due to rounding.

SOURCES: Ricondo & Associates, Inc., February 2018, based on CalEEMod modeling.

D.5 CalEEMod Data

CalEEMod provides a report presenting summary and detail emissions tables, as well as various model inputs/assumptions. This report for each modeling run is provided in the following pages. The modeling runs that were performed in CalEEMod include the following:

- **LAX RS-X – Site Prep:** This run includes pavement and building demolition, grading, excavation, trenching.
- **LAX RS-X – Building Construction:** This run includes construction of the RS-X facility.
- **LAX RS-X – Paving:** This run includes paving for vehicle parking and equipment areas, along with pavement striping.

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