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## 4.23 Hazardous Materials

### 4.23.1 Introduction

The hazardous materials analysis addresses hazardous materials use and storage; hazardous waste generation, transport, and disposal; soil and groundwater contamination and remediation operations; and hazardous building materials. Technical Report 13, *Hazardous Materials Technical Report*, and Technical Report S-8, *Supplemental Hazardous Materials Technical Report*, contain detailed information regarding existing sources, types, and volumes of hazardous materials at LAX; use of underground storage tanks within the Master Plan boundaries; listed sites within the Master Plan boundaries with known contamination; and a history of reported spills. Potential impacts associated with upsets at facilities where large volumes of hazardous materials are stored or used at LAX (e.g., the Central Utility Plant, Fuel Farm, and Liquefied Natural Gas/Compressed Natural Gas (LNG/CNG) Facilities) are discussed in Section 4.24.3, *Safety*.

### 4.23.2 General Approach and Methodology

The general approach to this analysis is to compare the projected hazardous materials conditions associated with the No Action/No Project Alternative and the four build alternatives with environmental baseline conditions. The study area for the hazardous materials analysis is the area within the Master Plan boundaries, as defined in the Introduction to Chapter 4 of this Final EIS/EIR. Due to the variety of information sources used to characterize the potentially affected environment, baseline data is not limited to a single year. The baseline airport operations (e.g., the amount of cargo handled and fuel demand) are generally as of 1996. Most of the relevant data about known contaminated sites, number and locations of underground storage tanks (USTs), and volumes of hazardous materials used at LAX is representative of 2002, although some data is from other years, predominantly 1998 and 1999.<sup>785</sup>

This analysis addresses the type of hazardous materials or hazardous wastes that would be generated, stored, disturbed, transported, treated, or disposed as a result of project implementation; on-site contamination, including the existence of any National Priorities List (NPL) sites within the project boundaries; and provisions for spills or the discovery of unknown contaminants during construction. In addition, in compliance with CEQA and the State CEQA Guidelines, a more specific description of types of impacts is considered, including foreseeable accidents involving hazardous materials releases, handling of acutely hazardous materials within a quarter mile of a school (Public Resources Code Section 21151.4), and interference with emergency response plans and emergency evacuation plans. CEQA also requires a search of databases for sites that any agency has identified as having been contaminated by hazardous materials releases (Public Resources Code Section 21092.6).

The various information sources and methodologies used for this analysis are identified below. Additional details and information regarding these sources and methodology are provided Technical Report 13, *Hazardous Materials Technical Report*, and Technical Report S-8, *Supplemental Hazardous Materials Technical Report*.

### Hazardous Materials Usage/Hazardous Waste Generation

Impacts from the use and transport of hazardous materials and the generation of hazardous waste requiring disposal during operation and construction were evaluated qualitatively, considering the types and intensity of future activity at LAX and activities at related developments (e.g., LAX Northside/Westchester Southside). The projected availability of hazardous waste disposal capacity in the region and the nature of the hazardous waste disposal market were considered in this evaluation.

Information regarding current and historical hazardous materials use and storage at LAX was collected from the 1988 Underground Tanks and Hazardous Substances (UTAHS) Phase I Environmental Audit,<sup>786</sup>

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<sup>785</sup> Any existing tanks, volumes of hazardous materials, and contamination not identified under baselines conditions would be subject to all applicable LAWA Master Plan commitments and regulatory requirements identified in this section.

<sup>786</sup> Camp Dresser & McKee Inc., City of Los Angeles Department of Airports, Underground Tanks and Hazardous Substances Program, Phase I Environmental Audit, July 1988.

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LAWA Tenant Storm Water Questionnaires and Site Compliance Evaluation (1998),<sup>787</sup> LAWA's Source Reduction Evaluation Review and Plan (required by SB 14), the updated LAWA Storm Water Monitoring Program Plan (1998),<sup>788</sup> LAWA's Environmental Data Management System (2002),<sup>789</sup> and database list reviews conducted by Vista Information Solutions, Inc., in 1998 and 1999 (the Vista report),<sup>790</sup> which were supplemented and updated by the database list reviews conducted by Environmental Data Resources (EDR), Inc., in 2002 (the EDR reports)<sup>791</sup> Additional data on USTs and aboveground storage tanks (ASTs) was obtained through correspondence with the LAXFUEL Corporation, a survey of tenant facilities conducted in 1997, and a review of LAWA's Environmental Data Management System (2002). UST and AST information for properties within the acquisition areas and Aircraft Noise Mitigation Program (ANMP) properties was obtained from the Vista and EDR reports.

Information on the current and historical land uses within the acquisition areas and ANMP properties was gathered from several sources, including the Vista and EDR reports; historical aerial photographs (reviewed at Rupp Aerial Photography); zoning maps; a review of agency records; and a limited site reconnaissance.

Information regarding current and future hazardous waste disposal capacity was obtained from the 1988 *Los Angeles County Hazardous Waste Management Plan*,<sup>792</sup> the 1994 *Regional Comprehensive Plan and Guide*,<sup>793</sup> prepared by SCAG which contains a chapter that updates the 1989 *Southern California Hazardous Waste Management Plan*, and discussions with personnel at the Department of Toxic Substances Control (DTSC) and the Los Angeles County Department of Public Works (LACDPW).

### **Hazardous Materials Contamination and Remediation**

Impacts with respect to existing contamination and remediation activities were evaluated by mapping areas of known contamination within the Master Plan boundaries and comparing those locations to areas of planned excavation under the No Action/No Project Alternative and the four build alternatives. This process identified areas where substantial contamination may be encountered during construction and where construction activities would have the potential to prevent the clean up of sites that are currently undergoing remediation or that have remediation planned in the near future. These impacts are typically construction-related.

Impacts with respect to the potential for hazardous materials releases during construction and operation were evaluated qualitatively, considering the types and intensity of future maintenance and operations activity at LAX, as well as the practices, procedures, and regulations in place to prevent and respond to releases. Major spills associated with the Central Utility Plant (CUP), Fuel Farm, and LNG/CNG Facilities are addressed in Section 4.24.3, *Safety*; therefore, catastrophic spills are not explicitly discussed here.

Data regarding areas of known contamination was obtained from a variety of sources. Consistent with CEQA Section 21092.6, a search of several database lists was conducted to determine if other agencies have identified sites within the Master Plan boundaries as having been contaminated by hazardous materials releases. Reviews of those lists were conducted by Vista Information Solutions in 1998 and 1999 and by EDR in 2002. The following lists were reviewed:

- ◆ Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- ◆ National Priorities List (NPL)
- ◆ CERCLIS-No Further Remedial Action Planned (CERCLIS-NFRAP)

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<sup>787</sup> Camp Dresser & McKee Inc., LAWA Site Compliance Evaluation, Prepared for the City of Los Angeles World Airports, July 1998.

<sup>788</sup> Camp Dresser & McKee Inc., Storm Water Monitoring Program Plan - Los Angeles International Airport, August 29, 1998.

<sup>789</sup> Camp Dresser & McKee Inc., LAWA's Environmental Data Management System, December 10, 2002.

<sup>790</sup> VISTA Information Solutions, Inc., LAX Master Plan Data Base Search, November 1998, December 1999.

<sup>791</sup> Environmental Data Resources (EDR), Inc., Area Study Report for Existing LAX Property; Area Study Report for Alternative A, Property Acquisition Area; Area Study Report for Alternative B, Property Acquisition Area; Area Study Report for Alternative C, Property Acquisition Area; and Area Study Report for Alternative D, Property Acquisition Area, November 2002.

<sup>792</sup> Los Angeles County Department of Public Works, Los Angeles County Hazardous Waste Management Plan, September 1988.

<sup>793</sup> Southern California Association of Governments, Regional Comprehensive Plan and Guide, November 1994.

- ◆ CalSites List
- ◆ Annual Work Plan (AWP)
- ◆ Notify 65
- ◆ Toxic Pits List
- ◆ California Bond Expenditure Plan
- ◆ Toxic Chemical Release Inventory System (TRIS)
- ◆ Leaking Underground Storage Tank (LUST) List
- ◆ Cortese Hazardous Waste and Substances Sites List (Cortese)
- ◆ CA SLIC (Region 4)
- ◆ California Solid Waste Landfills List (SWLF)
- ◆ CORRACTS
- ◆ Waste Management Unit Database System (WMUDS)/SWAT
- ◆ Resource Conservation and Recovery Information System (RCRIS)
- ◆ Emergency Response Notification System (ERNS)
- ◆ California Hazardous Material Incident Report System (CHIMRS)
- ◆ Waste Discharge System (WDS)

The products of those reviews are the Vista and EDR reports, which are provided as Attachment A of Technical Report 13, *Hazardous Materials Technical Report* (the Vista report), and Attachment A of Technical Report S-8, *Supplemental Hazardous Materials Technical Report* (the EDR reports). Site contamination information from the Vista and EDR reports and the UTAHS database and fuel spill tracking program was supplemented by information from agency files, including files from the City of Los Angeles Fire Department (LAFD) Investigation Office, LACDPW, Los Angeles Regional Water Quality Control Board (RWQCB), DTSC, and U.S. Environmental Protection Agency (USEPA) Region IX. Information about the off-site fuel farm sites was obtained from the *Phase I Environmental Site Assessment for the Tank Farm Area of the Scattergood Generation Station*,<sup>794</sup> and the *Revised Draft EIR for the Chevron Refinery - El Segundo, Reformulated Gasoline Projects*.<sup>795</sup>

Information regarding the status of remediation at LAX was obtained from the UTAHS program (current to 1998) and a review of agency files in 1998. Subsequently, information was obtained from LAWA's Environmental Management Division. To determine the status of remediation within the acquisition areas and the ANMP properties, information was obtained from a review of agency files (also current to 1998). The agencies contacted did not have files for all of the sites identified in the database search. Thus, contamination could not be confirmed for some of these sites. Sites for which contamination cannot be confirmed were not included in the analysis.

### **Hazardous Building Materials**

No airport-wide surveys for hazardous building materials (namely, asbestos, polychlorinated biphenyls (PCBs), and lead-based paints) have been conducted at LAX. The impacts of construction and demolition activities with respect to hazardous building materials were evaluated qualitatively. The evaluation considered the likelihood of the presence of PCBs, lead paint, and asbestos in the buildings to be demolished in relation to the practices, procedures, and regulations in place to protect the health and safety of construction workers, employees, and the general public.

### **4.23.3 Affected Environment/Environmental Baseline**

The affected environment for this analysis includes the Master Plan boundaries, as described in the Introduction to Chapter 4 of this Final EIS/EIR, including the off-site fuel farm sites. The environmental baselines are described separately below for the Master Plan boundaries and the off-site fuel farm sites.

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<sup>794</sup> City of Los Angeles, Department of Water and Power, Phase I Environmental Site Assessment for the Tank Farm Area of the Scattergood Generating Station, November 1997.

<sup>795</sup> South Coast Air Quality Management District, Revised Draft Environmental Impact Report Chevron Refinery - El Segundo, Reformulated Gasoline Projects, December 16, 1994.

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### **Hazardous Materials Usage/Hazardous Waste Generation**

On-airport tenants and off-airport commercial and industrial facilities use and store hazardous materials and generate hazardous waste. These uses are characterized in the discussion below.

### **Use/Generation Within the Master Plan Boundaries**

#### **Hazardous Materials Use**

Approximately 60 of the several hundred LAX tenants use or store hazardous materials meeting threshold quantities. The most common hazardous materials used are fuel and solvents, although lubricants, cleaners, paints, compressed gases, peroxides, caustics, pesticides, herbicides, alcohols, and foams are also used. These materials are used for many activities, including aircraft fueling, maintenance, painting, and stripping; fuel storage; ground vehicle fueling and maintenance; heating and cooling; and pest abatement. In addition, sulfuric acid, an acutely hazardous material (AHM), is used at the CUP to adjust the pH of the cooling tower water. Sulfuric acid is stored at the CUP in quantities of no more than 700 gallons. This acid is the only AHM used and stored above reporting threshold quantities at LAX. Hazardous materials used within the LAX Northside/Westchester Southside area consist primarily of pesticides, fertilizers, and motor vehicle fuels used at the golf course. Specific information on the types, quantities, and storage of hazardous materials at LAX is provided in Technical Report 13, *Hazardous Materials Technical Report*, and Technical Report S-8, *Supplemental Hazardous Materials Technical Report*.

Tenants who use and store hazardous materials above certain quantities - the reporting thresholds - must comply with the Emergency Planning and Community Right-To-Know Act of 1986, as well as state legislation. Required reports and plans provide federal, state, and local emergency planning and response agencies with information about the amounts of materials that businesses use, release, and/or spill. They also provide the public with information about potential hazards in their communities.

Hazardous materials are also used at off-airport properties within the Master Plan boundaries. Such off-airport land uses include single- and multiple-family residences; hotels; institutional uses; commercial/light industrial, office, and retail uses; and several gasoline stations. These businesses engage in a variety of activities that commonly require hazardous materials, such as motor vehicle fueling, dry cleaning, light manufacturing, and auto repair. Types of hazardous materials associated with these activities range from common household cleaning agents to fuels, solvents, lubricants, and other industrial chemicals.

#### **Use of Fuels**

By volume, approximately 99 percent of the hazardous materials stored at LAX are fuels, including jet fuel, diesel, gasoline, and liquid propane gas. Most of the jet fuel is delivered to LAX through underground pipelines from the Chevron, Mobil, Unocal, and BP Amoco (formerly Arco) refineries and the Shell Terminal, all located to the south and southeast of LAX. Fuel from tank ships is transferred at the GATX Terminal in San Pedro Harbor and delivered by pipelines to the Mobil Refinery. These pipelines are subject to pipeline safety requirements contained in the Pipeline Safety Act as enforced by the California State Fire Marshall. These requirements include design specifications, as well as provisions for construction, operation and maintenance, and release reporting.

Five operators store and deliver fuel to the airlines at LAX. These operators supply a combined total of over 169 million gallons of fuel to LAX per month. The largest supplier is LAXFUEL Corporation, which provides approximately 121 million gallons of fuel per month (72 percent of the total fuel usage)<sup>796</sup> and has a fuel storage capacity of approximately 26 million gallons.<sup>797</sup> The underground fuel hydrant systems, through which fuel is delivered, are owned by individual airlines or terminal operators within the terminal areas. In addition, several LAX tenants store fuel in USTs located on their leaseholds. Because most fuel is delivered to the terminal areas through underground systems, there is very little fueling by tank trucks at LAX. Additional information pertaining to fuel use at LAX is provided in Section 4.17.1, *Energy Supply*.

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<sup>796</sup> Landrum and Brown, Review of Ancillary Facilities Technical Memorandum, 1995.

<sup>797</sup> Moses, Jim, LAXFUEL Corporation, Personal Communication, September 22, 2000.

### Transportation of Hazardous Materials

With the exception of fuel delivered via pipeline, other hazardous materials and hazardous wastes used and stored at LAX are transported to and from the airport via truck. Transportation of hazardous materials and hazardous wastes is strictly regulated by federal and state laws. These laws include the Hazardous Material Transportation Act of 1994, administered by the U.S. Department of Transportation (USDOT), which includes standards for classification of hazardous materials; labeling and placarding of containers and vehicles; vehicle equipment standards; training of transport personnel; and incident reporting. Airlines and cargo operators at LAX also transport hazardous materials by air. FAA has primary responsibility for the regulation of air transportation of hazardous materials, with authority of intra-state transport residing with the California Public Utilities Commission (CPUC). In addition, the International Civil Aviation Organization (ICAO) has adopted instructions and guidelines for international air transport of hazardous materials.

### Underground Storage Tanks (USTs)/Aboveground Storage Tanks (ASTs)

Most hazardous materials used at LAX are stored in USTs or ASTs. According to a 2002 inventory, there were 119 USTs at LAX, 63 of which were active.<sup>798</sup> Technical Report S-8, *Supplemental Hazardous Materials Technical Report*, provides the specific characteristics of these tanks, including contents, storage quantities, and tank status (i.e., active or inactive). Stringent UST regulations required these tanks to be upgraded by the end of 1998 to meet requirements for construction standards, leak detection, and spill and overfill protection. In May 2001, the California State Water Resources Control Board, as required by Senate Bill 989, adopted amendments to the UST regulations that specify dates for various upgrade and testing requirements. These upgrades and testing requirements will reduce occurrences of releases from tanks. In addition, AST standards, enforced by the LAFD, require secondary containment<sup>799</sup> for all ASTs larger than 60 gallons that contain combustible materials.

Tenants who store greater than a threshold quantity of petroleum products<sup>800</sup> are required to maintain Spill Prevention Control and Countermeasure (SPCC) plans in accordance with federal and state requirements. These tenants are LAXFUEL Corporation, Mercury Group, and Garrett Aviation, although numerous other tenants who store less than the threshold quantity also maintain written spill response plans. SPCC Plans include a prediction of the nature and extent of oil discharges that may result from equipment failure, a description of structures and equipment designed to prevent discharged oil/fuel from reaching water, and a discussion of a facility's compliance with guidelines for facility drainage, bulk storage, piping, loading and unloading, facility security, inspections, record keeping, and personnel training. Due to the large volume of petroleum (approximately 26 million gallons) stored at the fuel farm, LAXFUEL Corporation is also required to prepare a Facility Specific Response Plan (FSRP) in accordance with the Oil Pollution Act (OPA). This plan describes how the facility would respond to a worst-case discharge of oil or fuel.

Storage of hazardous materials not contained within USTs or ASTs, such as solids or those in containers other than tanks, is regulated by the Uniform Fire Code (UFC), which is enforced by the LAFD. The UFC regulates the types, configuration, and quantities of hazardous materials that can be stored within structures, as well as those stored in outdoor areas.

### Hazardous Waste Generation

Most of the activities within the Master Plan boundaries that use hazardous materials also generate hazardous waste, which is temporarily accumulated on-site. On-airport activities that generate hazardous waste include aircraft defueling, tank sumping (which entails removal of tank materials), and aircraft and ground vehicle maintenance procedures (e.g., oil, transmission, and hydraulic fluid changes). The most common types of hazardous waste generated at LAX include waste oil and fuel, used solvents, and used maintenance fluids (mainly, hydraulic and transmission fluid). According to tenant estimates made during the 1988 UTAHS Phase I Environmental Audit (the last comprehensive audit of hazardous wastes at

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<sup>798</sup> Camp Dresser & McKee Inc., LAWA's Environmental Data Management System, December 10, 2002.

<sup>799</sup> Secondary containment prevents a release or spill from a tank from reaching the environment. It often takes the form of a berm or dike around an AST.

<sup>800</sup> Different threshold quantities exist for USTs, ASTs, and total volume stored.

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LAX), 287,000 gallons of hazardous waste were generated in that year.<sup>801</sup> Of this, approximately 166,000 gallons, or 58 percent, consisted of waste oil and waste fuel. These wastes are typically generated by maintenance activities.

Since 1988, maintenance activities at LAX have decreased with the closure, reduction, and relocation of several air carriers' maintenance operations, including Continental and American Airlines. As discussed previously, approximately 58 percent of the hazardous waste generated at LAX in 1988 was waste oil and fuel. These wastes are typically generated by maintenance activities. Given the large reduction in aircraft maintenance activities since 1988, and the implementation of South Coast Air Quality Management District (SCAQMD) Rule 1122 in 1997, and Rule 1171 in 1996, which require the use of solvents that contain less volatile organic compounds for degreasing operations, hazardous waste generation at LAX has likely decreased in volume and toxicity substantially since then.

Tracking and record-keeping provisions pertaining to the generation, transportation, treatment, storage, and disposal of hazardous waste are contained in the federal Resource Conservation and Recovery Act (RCRA), the federal Toxic Substances Control Act (TSCA), and the California Hazardous Waste Control Law (HWCL). Primary authority for the statewide administration and enforcement of HWCL rests with DTSC. Locally, the LAFD, as the Certified Unified Program Agency, regulates hazardous waste generators in conjunction with the County of Los Angeles Fire Department, Health and Hazardous Materials Division.

The Hazardous Waste Source Reduction and Management Review Act (SB 14) requires certain hazardous waste generators to evaluate their waste streams every four years and to implement source reduction activities. LAWA generates a performance report in compliance with the requirements of SB 14, as well as a plan to reduce the generation of hazardous waste at its source and the release of chemical constituents to the environment. The plan also provides documentation of hazardous waste management information for use by state and local agencies. Many tenants are also required to comply with SB 14.

In addition to SB 14, other waste minimization requirements are contained within the Uniform Hazardous Waste Manifest, which must be signed by large- and small-quantity generators who ship hazardous waste off-site. By signing the Uniform Hazardous Waste Manifest, the large-quantity generator certifies that "...I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment." Similarly, by signing the Uniform Hazardous Waste Manifest, the small-quantity generator certifies that "...I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford."

Hazardous wastes generated at LAX and elsewhere within the Master Plan boundaries are removed by licensed waste haulers and transported for treatment, disposal, or recycling at off-site facilities. For the most part, hazardous wastes generated at LAX that are intended to be recycled are sent to recycling facilities in Los Angeles County or elsewhere in the Los Angeles region. There are no known capacity constraints at these facilities. Those wastes that cannot be recycled are sent off-site for treatment and disposal at incinerators and Class I landfills.<sup>802</sup> These facilities are not limited to the region and can be located out of state. Hazardous waste can be shipped over great distances and the price of disposal varies depending upon the available capacity in a given region. If capacity in a region becomes limited, prices for disposal will increase and hazardous waste generators will either pay higher prices to dispose of their waste locally, pay higher transportation costs to ship their waste to facilities in other states, or reduce the waste streams.

The most recent projection of regional treatment and disposal capacity is contained in the 1994 *Regional Comprehensive Plan and Guide*,<sup>803</sup> which contains a chapter that updates the 1989 Southern California Hazardous Waste Management Plan. The Regional Comprehensive Plan and Guide found that: 1) the

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<sup>801</sup> Camp Dresser & McKee Inc., Underground Tanks and Hazardous Substances Program, Phase I Environmental Audit, Prepared for City of Los Angeles Department of Airports, July 1988.

<sup>802</sup> Incinerators destroy hazardous waste through combustion. Class I landfills are those that can accept hazardous materials and wastes. Class I landfills are required to meet more stringent regulatory requirements for siting, operation, and record-keeping than those that accept municipal solid waste.

<sup>803</sup> Southern California Association of Governments, Regional Comprehensive Plan and Guide, November, 1994.

region is projected to require a substantial number of new facilities for waste oil recovery; 2) one large incinerator is needed; and, 3) existing residual repository capacity will likely be exhausted by 2010. However, according to more recent consultation with the DTSC, the regional treatment, disposal, and recycling facilities that accept the types of waste typically generated at LAX have sufficient capacity to meet future regional requirements.<sup>804</sup>

### **Use/Generation at the Off-Airport Fuel Farm Sites**

Two sites in close proximity to LAX are being considered for the construction of an off-site fuel farm under Alternative B: Scattergood Electric Generating Station and the oil refinery located south of the airport. The Scattergood Fuel Farm site has been used exclusively for fuel oil storage since the construction of the Scattergood Generating Station in 1957 and is owned by Los Angeles Department of Water and Power. The four ASTs at the site are inactive (i.e., their contents are not dispensed), but two contain approximately 50,000 barrels of No. 6 fuel oil. No hazardous materials are currently used at the Scattergood Fuel Farm site. The oil refinery fuel farm site is currently occupied by active refinery-related equipment and is used as a tanker truck fueling station, with a fully operational pipeline system. A variety of hazardous materials, primarily fuels, are used and stored throughout the refinery. Additional information regarding the current facilities at the Scattergood and oil refinery fuel farm sites is provided in Section 4.24.3, *Safety*.

### **Hazardous Materials Contamination and Remediation**

#### **Regulating Authorities**

Underground releases and aboveground spills can contaminate soil and groundwater.<sup>805</sup> Because spills occur aboveground, they are more likely to be identified and mitigated soon after the event by implementation of emergency response plans. As a result, spills typically do not result in long-term contamination. However, releases, such as those from leaking USTs and pipes, may go undetected for a long time and, therefore, have a greater potential to cause widespread contamination.

As described below, past activities on and off the airport have resulted in contamination of soil and groundwater by hazardous materials. Releases of hazardous materials are subject to a complex set of reporting requirements, including notification of the LAFD and the state Office of Emergency Services (OES). Remediation of this contamination is subject to stringent oversight by federal, state, county, and city agencies. Facilities that meet minimum reporting requirements must submit Hazardous Materials Disclosure information to the LAFD. The Disclosure information must include a complete inventory of all hazardous materials used and stored at a site, emergency response plans and procedures, and a program of employee training for hazardous materials releases.

If clean up is required due to either spills or underground releases, various agencies are responsible for the oversight of investigation and remediation activities, including federal, state, and local authorities. The LAFD oversees contamination resulting from leaking USTs. The RWQCB has the authority to require the remediation of sites where groundwater quality may be degraded by hazardous materials releases from USTs or other sources. These agencies require that remediation continue until regulatory requirements are met and closure is granted.

Various soil and groundwater remediation techniques that are typically required by the RWQCB are currently in operation at LAX. The techniques include ex-situ remediation (soil is excavated and either treated or disposed of at a licensed landfill), and in-situ remediation (soil is treated in place by bioremediation, vapor extraction or other types of methods). LAX also has product recovery systems in groundwater wells to remove petroleum hydrocarbon free product from the groundwater. The above techniques for soil and groundwater remediation are established technologies of proven effectiveness.

Remediation of contamination has the potential to expose workers to hazardous materials. SCAQMD regulates emissions from soil remediation activities through Rule 1166, Volatile Organic Compound Emissions from Decontamination of Soil. This rule requires development and approval of a mitigation

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<sup>804</sup> Radimsky, Jan, Branch Chief, Permit Streamlining Branch, Hazardous Materials Program, Department of Toxic Substance Control, Personal Communication, November, 1998.

<sup>805</sup> In this discussion, a spill is defined as an above ground release. A release (or discharge) is considered to be above or below ground, including spills, leaking pipes and tanks.

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plan, monitoring of volatile organic compound (VOC) concentrations, and implementation of the mitigation plan if VOC-contaminated soil is detected. Worker safety and health are also regulated by the federal Occupational Safety and Health Act (OSHA) of 1970 and the California Occupational Safety and Health Act (CalOSHA). OSHA and CalOSHA standards establish exposure limits for certain air contaminants.<sup>806</sup> Exposure limits define the maximum amount of hazardous airborne chemicals to which an employee may be exposed over specific periods. When administrative or engineering controls cannot achieve compliance with exposure limits, protective equipment or other protective measures must be used. Employers are also required to provide a written health and safety program, worker training, emergency response training, and medical surveillance.

### Known Contamination Within the Master Plan Boundaries

LAWA and its tenants employ extensive engineering controls to prevent hazardous materials spills and underground releases and to control releases should they occur. These engineering controls include leak and overflow detection systems, double containment tanks and piping, secondary containment areas, SPCC and FSRP plans, and employee training in hazardous materials handling and spill response. Off-airport hazardous materials users employ similar measures to reduce the risk of a release.

A list of the known spills within the Master Plan boundaries, including materials spilled and dates of spills, is presented in Technical Report S-8, *Supplemental Hazardous Materials Technical Report*. The overwhelming majority of spills that have occurred at LAX each involve less than 100 gallons and have typically been caused by errors in the aircraft fueling process or in filling tanker trucks used in aircraft fueling. For most of the spills, absorbent material was used to contain and recover the discharged liquid. Prompt clean-up of these spills has limited the extent and impact of long-term contamination. Additional discussion regarding response plans and major fuel spills can be found in Section 4.24.3, *Safety*.

Past activities conducted by LAWA, by former and present tenants, and by property owners within the Master Plan boundaries, have resulted in releases of hazardous materials into the environment, causing soil and groundwater contamination at various locations. Given the difficulty of detecting underground leaks, as described above, it is believed that the contamination generally resulted from underground releases, rather than aboveground spills. Investigation and remediation of contaminated sites is undertaken by the party responsible. LAWA monitors known or potential groundwater contamination through the Environmental Management Division. LAWA's monitoring program tracks the progress of tenant investigation, monitoring and remediation activities associated with groundwater contamination sites at LAX to ensure that adequate and appropriate clean up goals are set and attained. All facilities with known groundwater contamination, both on- and off-airport, are regulated by the RWQCB, which reviews and approves all work plans and establishes and enforces remediation requirements and schedules. While LAWA oversees the status of remediation activities on the airport, individual tenants are ultimately responsible for ensuring that groundwater contamination is remediated to the satisfaction of the RWQCB. **Table F4.23-1**, Soil and Groundwater Contamination and Remediation Status, summarizes known past and present contamination within the Master Plan boundaries, as documented in the UTAHS program and the Vista and EDR reports.<sup>807</sup> There are no NPL-listed or NPL-candidate sites located within the Master Plan boundaries (refer to Table S3, Findings of Database Search for Potentially Contaminated Sites (2002), in Technical Report S-8, *Supplemental Hazardous Materials Technical Report*).

Some of the sites listed in the table are closed;<sup>808</sup> they are presented for informational purposes. The approximate locations of identified soil and groundwater contamination on the existing LAX property and within acquisition areas for Alternatives A, B, C, and D are shown in **Figure F4.23-1**, Existing Soil and Groundwater Contamination and Remediation, **Figure F4.23-2**, Contamination/Remediation Adjacent to the LAX Expressway (Alternatives A and C), and **Figure F4.23-3**, Contamination/Remediation Adjacent to

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<sup>806</sup> These air contaminants are identified in the Code of Federal Regulations (CFR) Title 29, Section 1910.1000.

<sup>807</sup> Additional contamination sites located along the northernmost extension of the LAX Expressway Single Viaduct alignment (evaluated in Appendix K, *Supplemental Environmental Evaluation for LAX Expressway and State Route 1 Improvements*) are identified in a Vista Report included in Attachment A of Technical Report 13, *Hazardous Materials Technical Report*.

<sup>808</sup> A site is "closed" when the regulatory agency responsible for overseeing the contamination and remediation (if any) determines that no additional activity or monitoring is required. Sites may be closed because the contamination no longer poses a threat to human health or the environment or the aquifer is so degraded that remediating a particular site will not resolve a contamination issue.

Table F4.23-1

## Soil and Groundwater Contamination and Remediation Status

Site Name <sup>1</sup>	Alternative				Contaminant <sup>2</sup>	Soil	Status	Contaminant <sup>2</sup>	Groundwater	Comments
	A	B	C	D						
<b>On LAX Property</b>										
1. American Airlines <sup>3</sup>	X	X	X	X	BTEX/TPH	Monitoring Ongoing; Further Investigation Possible				
2. Arco Day Storage	X	X	X	X	Jet Fuel	Case Closed				
3. Avis Rent-a-Car	X	X	X	X	TPH	Investigation Ongoing				
4. Continental Airlines Plating (Maintenance) <sup>7</sup>	X	X	X	X	BTEX/TPH/VOC	Investigation Ongoing	FHP/BTEX/TPH/VOC		Two FHP Recovery Systems in Place/Aggressive FHP Recovery System Planned; Active Investigation; 6-9 ft FHP	
5. Continental Airlines (Terminal 6)	X	X	X	X	TPH	Further Investigation Underway	FHP/TPH		Further Investigation Underway	
6. Delta Airlines	X	X	X	X	BTEX/TPH/VOC	Vapor Extraction Completed	BTEX/TPH/VOC		Post Remedial Action Monitoring	
7. Delta Airlines – Avion Bldg.	X	X	X	X	TPH	Case Closed				
8. FAA Hangar/LAWA <sup>4</sup>	X	X	X	X	TPH	Remediation Planned				
9. Federal Express West <sup>7</sup>	X	X	X	X	BTEX/TPH	No Action Required	FHP/TPH		Remediation Completed	
10. Federal Express South	X	X	X	X	BTEX/TPH	Case Closed	TPH		Case Closed	
11. Fire Drill Site	X	X	X	X	TPH	Bio-Remediation Completed				
12. Garrett Aviation Services	X	X	X	X	Unspecified	Case Closed				
13. Hertz Rent-A-Car	X	X	X	X	BTEX/TPH	Case Closed	TPH		Case Closed	
14. Korean Airlines Freight <sup>3</sup>	X	X	X	X	BTEX/TPH	Remediation Pending				
15. LAFD Station #95	X	X	X	X	TPH	Remediation Planned				
16. LA West Terminal Fuels Corp. <sup>4</sup>	X	X	X	X	BTEX/TPH	UST Upgrades Complete				
17. LAX Air Traffic Control Tower	X	X	X	X	Diesel	Case Closed				
18. LAXFUEL Corporation (BFSF) <sup>3,7</sup>	X	X	X	X	BTEX/TPH/VOC	Remediation Completed	FHP/BTEX/TPH/VOC		FHP Recovery and Monitoring; 5-7 ft FHP; Extraction Wells and Oil Skimmer in Place	
19. LAXFUEL Corporation (DFSF)	X	X	X	X			TPH/VOC		Case Closed	
20. Marriott/Caterair	X	X	X	X	BTEX/TPH	Completed - Closure Report Pending				
21. Mercury Air Group	X	X	X	X	BTEX/TPH	Remediation Completed	TPH		Free product removal on as-needed basis	
22. National Car Rental	X	X	X	X	BTEX/TPH/Benzene	Remedial Action Plan Approved by LARWQCB	BTEX/TPH/Benzene		Installation of soil vapor extraction remedial system anticipated in fall 2003	
23. Ogden Aviation <sup>3</sup>	X	X	X	X	BTEX/TPH	Vapor Extraction Completed - Closure Report Pending				
24. Shell LAX Facility <sup>5</sup>	X	X	X	X	Gasoline	Further Site Assessment Underway				
25. Taxiway 75	X	X	X	X	TPH	Remediation Planned				
26. Terminal 1	X	X	X	X	TPH	Status Unknown				
27. Terminal 2	X	X	X	X			Unspecified		Pollution Characterization	
28. TOFCO Day Storage	X	X	X	X	BTEX/TPH	Further Investigation Possible				
29. Trans World Airlines <sup>3</sup>	X	X	X	X	TPH/VOC	Monitoring Ongoing; Further Investigation Possible				
30. United Airlines Maintenance Base	X	X	X	X	BTEX/TPH	Completed	FHP/TPH/VOC		Remediation Completed	
31. United Airlines (Terminal 7)	X	X	X	X	TPH/BTEX	Further Investigation Possible	FHP/TPH		Active Investigation	
<b>Acquisition Areas</b>										
32. Allied Signal Aerospace	X	X		X	Solvents	Further Investigation Possible	VOC		Ongoing Groundwater Investigation/Remediation	
33. Avon Rent-A-Car	X	X	X		Waste Oil	Case Closed				
34. Bodycote Hinderliter		X	X		VOCs	Site Assessment				
35. Budget Rent-A-Car	X	X	X	X	BTEX	Further Investigation Possible	TPH/MTBE		Historic FHP Removal and Monitoring	
36. Chevron Gas Station	X	X					TPH		FHP Recovery System	
37. Collins Trust Property		X	X		TPH	Completed/Case Closed	TPH		Completed/Case Closed	
38. Fansteel Inc.	X	X			Solvents	Completed/Case Closed				
39. Freight Forwarders		X	X				Gasoline		Leak Being Confirmed	
40. Harry's Airport Garage		X	X		Gasoline	Leak Being Confirmed				
41. Honeywell Int'l Corp.	X	X	X	X	TPH/VOCs	Post Remediation Monitoring				
42. Hughes Aircraft Airport	X	X				No Further Remedial Action Planned				
43. Interweb	X	X				No Further Remedial Action Planned				
44. King Delivery Inc.	X	X	X				Gasoline		Pollution Characterization	
45. Lynden Air Freight	X	X			VOCs	Case Closed				
46. Merle Norman Cosmetics		X			Gasoline	Completed/Case Closed	TPH		Case Closed	
47. Modern Plating <sup>5</sup>	X	X			Metals	No Further Action				
48. Neutrogena Inc.		X	X		Diesel	Case Closed	Diesel		Case Closed	
49. Princland Property		X	X		VOCs	Remediation				
50. Texaco Station		X	X	X	Waste Oil	Case Closed				
51. Union Bank (Collins Estate)		X	X		TPH	Remediation Planned	TPH		Remediation Planned; Installation of Monitoring Wells	

4.23 Hazardous Materials

Table F4.23-1

Soil and Groundwater Contamination and Remediation Status

Site Name <sup>1</sup>	Alternative				Contaminant <sup>2</sup>	Soil Status	Contaminant <sup>2</sup>	Groundwater	Comments
	A	B	C	D					
<b>Sites Adjacent to LAX Expressway Alignments</b>									
52. Dow Chemical Co.	X	X	X		Unspecified	No Further Remedial Action Planned			
53. Duncan-Inglewood/Crush Form		X			Unspecified	No Further Action by DTSC			
54. Frito-Lay, Incorporated		X			TPH	No Action			
55. Hewlett-Packard Company		X			Unspecified	Case Closed			
56. Hillside Memorial Park	X	X	X		TPH	Case Closed			
57. Mobil Oil SS 11LEN	X	X	X				FHP/TPH	Remedial Action Underway	
58. Southern California Edison	X		X				TPH	Case Closed	
59. Your Man Tours, Inc.		X			Diesel	Completed/Case Closed	TPH	Case Closed	
<b>Off-Site Fuel Farm Sites</b>									
60. Oil Refinery South of the Airport		X			TPH/Metals	Site Assessment	FHP/BTEX/VOC/TRPH	FHP Removal	
61. Scattergood Generating Station		X			Fuel Oil	Unknown	FHP/BTEX/VOC/TRPH	Ongoing Monitoring	

<sup>1</sup> This list includes only those sites with known contamination, as determined through database and agency file review.

<sup>2</sup> BTEX: Benzene, Toluene, Ethylbenzene, Xylene (Fuel Components); TPH: Total Petroleum Hydrocarbons (Fuels); VOC: Volatile Organic Compounds (Solvents); FHP: Free Hydrocarbon Product; MTBE: Methyl Tertiary Butyl Ether; Metals: Including Cadmium, Chromium, Nickel, Zinc; TRPH: Total Recoverable Petroleum Hydrocarbons (Fuels).

<sup>3</sup> Regulatory concurrence and/or verification has not been obtained.

<sup>4</sup> Remediation is planned following demolition of the building.

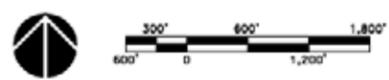
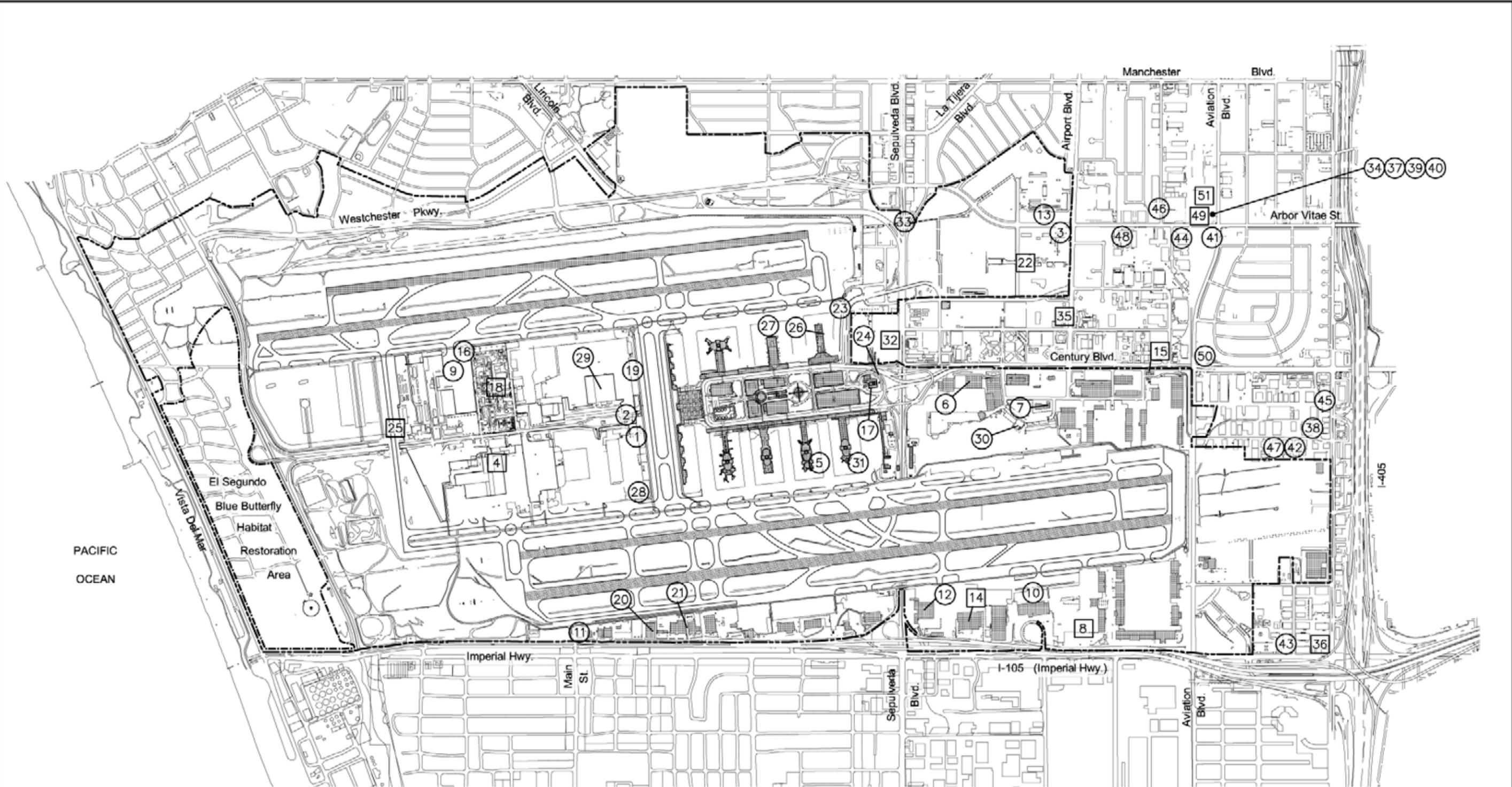
<sup>5</sup> This site is adjacent to LAX and contaminated airport property; LAWA has assumed responsibility for remediation of on-site contamination.

<sup>6</sup> Site listed in Vista report (1998); agency status not confirmed.

<sup>7</sup> The areal extent of sites numbered 4, 9, and 18 is larger than depicted on the figures.

Sources: Camp Dresser & McKee Inc., Status of Tenant Environmental Concerns at Los Angeles International (LAX), Ontario International Airport (ONT), Van Nuys (VNY), and Palmdale (PMD) Airports, September 1998. VISTA, Information Solutions, Inc., LAX Master Plan Data Base Search, November 1998, December 1999. Agency review files from USEPA Region IX, Regional Water Quality Control Board, City of Los Angeles Department of Public Works and Los Angeles Fire Department. Los Angeles Department of Water and Power, Phase I Environmental Site Assessment, Scattergood Generating Station, November 1997. Engibous, Bill, Chevron El Segundo Refinery, Personal Communication, February 1998, November 1998. LAWA Environmental Management Bureau, August 2000. Camp Dresser & McKee Inc., LAXMP Scattergood Fuel Farm Relocation Feasibility Study, March 1998. Environmental Data Resources (EDR), Inc., Area Study Report for Existing LAX Property; Area Study Report for Alternative A, Property Acquisition Area; Area Study Report for Alternative B, Property Acquisition Area; Area Study Report for Alternative C, Property Acquisition Area; and Area Study Report Alternative D, Property Acquisition Area, November 2002.

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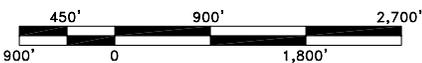
Source: Environmental Data Resources, Inc., 2002, Camp Dresser & McKee Inc., 1998.

**NOTES:**  
 NUMBERS CORRESPOND TO TABLE F4.23-1  
 SITES 1 THROUGH 31 ARE ON LAX PROPERTY.  
 SITES 32 THROUGH 51 ARE WITHIN THE ACQUISITION AREAS.

- LEGEND**
- LAX Existing Property Line
  - El Segundo Blue Butterfly Habitat Restoration Area
  - ② Site with known soil and/or groundwater contamination
  - ⑨ Site with planned or on-going remediation



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**LEGEND**

- (58)** SITE WITH KNOWN SOIL AND/OR GROUNDWATER CONTAMINATION.
- [57]** SITE WITH PLANNED OR ON-GOING REMEDIATION.

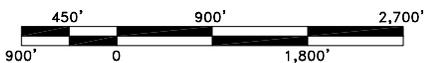
Source: Vista Environmental Solutions, 1998, Camp Dresser & McKee Inc., 1998.

**LAX Master Plan  
Final EIS/EIR**

**Contamination/Remediation  
Adjacent to the LAX  
Expressway (Alts. A and C)**

Figure  
**F4.23-2**





**LEGEND**

- 55** SITE WITH KNOWN SOIL AND/OR GROUNDWATER CONTAMINATION.
- 57** SITE WITH PLANNED OR ON-GOING REMEDIATION.

Source: Vista Environmental Solutions, 1998, Camp Dresser & McKee Inc., 1998.

**LAX Master Plan  
Final EIS/EIR**

**Contamination/Remediation  
Adjacent to the LAX  
Expressway (Alternative B)**

Figure  
**F4.23-3**

## **4.23 Hazardous Materials**

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the LAX Expressway (Alternative B). LAWA and agency records indicate that approximately 99 percent of the contamination detected in soil and groundwater within the Master Plan boundaries is attributable to fuels and solvents.

There are 31 sites at LAX where hazardous materials releases have resulted, or may have resulted, in contamination. At 13 of these sites, such releases have resulted, or may have resulted, in contamination of groundwater. Of these 13 sites, two have significant groundwater contamination and are undergoing or planning remediation activities - LAXFUEL Corporation Bulk Fuel Storage Facility (BFSF) and Continental Airlines Maintenance Facility. Continental Airlines has received RWQCB approval for installation of a free product recovery system. Installation is estimated to commence in 2004. The free product recovery is not expected to be completed until at least 2010. Another area of potential contamination not included in **Figure F4.23-1** or **Table F4.23-1** is a site located west of the Continental Airlines maintenance base south of World Way West between Pershing Drive and Taxiway 75 where, historically, airport tenants conducted a land farming treatment operation of total petroleum hydrocarbons (TPH) contaminated soils removed from the terminal area during UST removal.

Within the acquisition areas, there are 17 sites where hazardous materials releases have, or may have, resulted in soil contamination and nine where releases have, or may have, resulted in groundwater contamination. Four of the sites have substantial groundwater contamination and ongoing or planned remediation -- Allied Signal Aerospace, Budget Rent-A-Car, Chevron Gas Station, and the Union Bank/Collins Trust Property.

There are six sites adjacent to the LAX Expressway alignments where hazardous materials releases have resulted, or may have resulted, in soil contamination and three sites where such releases have, or may have, resulted in groundwater contamination.<sup>809</sup> Groundwater remediation is underway at one of these sites, a Mobil Oil service station.

Details regarding the type and extent of contamination and progress of remediation at the sites discussed above are provided in Technical Report 13, *Hazardous Materials Technical Report*, and Technical Report S-8, *Supplemental Hazardous Materials Technical Report*. Also, it is likely that additional contamination is present at LAX that has not yet been discovered.

### Known Contamination at the Off-Airport Fuel Farm Sites

Shallow soil contamination (less than 10 feet below ground) has been confirmed at the Scattergood Fuel Farm site. The primary source of this contamination was a 1.5 million-gallon fuel oil spill that occurred in July 1993. The extent of the spill was mostly limited to the containment dike around the storage tank area, although a small portion flowed onto Grand Avenue. Some fuel oil leaked into a groundwater monitoring well, which was abandoned in 1997. A Phase I Environmental Site Assessment conducted for the property includes limited documentation of the incident, including clean-up and subsequent soil sampling and analysis, but no further investigation has occurred. Visual inspection of the foundations of the four aboveground tanks indicated that fuel oil leakage had occurred.

Groundwater is also contaminated with petroleum hydrocarbons as a result of releases of refined products from the adjacent Chevron Refinery that have migrated to the Scattergood property through the groundwater. Under existing abatement orders issued by the RWQCB, the Chevron Refinery has responsibility for all hydrocarbon removal under their refinery and the surrounding areas. As part of this effort, several monitoring wells have been installed at the Scattergood Generating Station.

There is also known soil contamination at the oil refinery fuel farm site. Contaminants include total petroleum hydrocarbons (TPH) and metals from former refinery activities. Generally, groundwater under the refinery is contaminated by petroleum hydrocarbons. Underneath the oil refinery fuel farm site, the average thickness of FHP is about two feet.<sup>810</sup> At and around the fuel farm site, there are several groundwater extraction and recovery wells operating, as well as a few observation wells. These wells are generally near the perimeter of the proposed fuel farm site. The refinery has been removing liquid hydrocarbons (LHCs) from the groundwater since 1988 when the RWQCB issued Clean Up and

<sup>809</sup> Additional contamination sites located along the northernmost extension of the LAX Expressway Single Viaduct alignment (evaluated in Appendix K, *Supplemental Environmental Evaluation for LAX Expressway and State Route 1 Improvements*) are identified in a Vista Report included in Attachment A of Technical Report 13, *Hazardous Materials Technical Report*.

<sup>810</sup> Casey, John P., Chevron U.S.A., El Segundo Refinery, *Memorandum to Mr. W. R. Engibous, Subject: LAX Plan-Fuel Farm*, February 9, 1998.

## 4.23 Hazardous Materials

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Abatement Order No. 88-055. A clean up plan exists, which consists of extracting groundwater through withdrawal wells, recovering LHCs, and returning the treated groundwater to the subsurface via injection wells. Remediation activities are in progress with no completion date set.

### **Hazardous Building Materials**

Former building practices used construction materials that are now known to be hazardous. The three most commonly recognized such materials are asbestos, polychlorinated biphenyls (PCBs), and lead-based paints. Most of the facilities within the Master Plan boundaries were constructed before there were regulations governing the use of these materials. Consequently, many of the buildings may contain hazardous building materials. The handling and disposal of hazardous building materials, including asbestos and asbestos-containing materials (ACM), and PCBs, is strictly regulated by federal, state, and local laws. Among these laws and standards are the TSCA, RCRA, the National Emission Standards for Hazardous Air Pollutants (NESHAP), and the California HWCL. In addition, SCAQMD Rule 1403, Asbestos Emissions from Renovation/Demolition Activities, requires the surveying of structures for ACM; agency notification of intention to remove asbestos; ACM removal procedures and time schedules; ACM handling and clean up procedures; and disposal and landfill requirements.

OSHA regulations govern the exposure of workers to hazardous materials, including asbestos, PCBs, and lead. Proper disposal of lead containing materials is regulated by RCRA and the HWCL.

### **Asbestos**

Asbestos is a naturally occurring material that was widely used as a building material. Asbestos poses numerous health risks and is a carcinogen. Spray-applied fireproofing/insulating mixtures are common ACMs frequently used in construction until their prohibition in 1973 under NESHAP. Most spray-applied surfacing ACMs (those applied for decorative purposes) were banned under NESHAP in 1978. Thermal system insulation (wet-applied and pre-formed asbestos pipe insulation and pre-formed block insulation on boilers and hot water tanks) was banned under NESHAP in 1975. The U.S. manufacturing, importation, processing, and distribution in commerce of many asbestos-containing products were banned under USEPA's 1989 "Asbestos Ban and Phaseout" rule. However, in 1991, the U.S. Fifth Circuit Court of Appeals vacated much of this rule and remanded it to the USEPA. Thus, much of the "Asbestos Ban and Phaseout" rule was set aside and did not take effect. Six asbestos-containing product categories are still subject to the 1989 asbestos ban: 1) corrugated paper; 2) rollboard; 3) commercial paper; 4) specialty paper; 5) flooring felt; and 6) new uses of asbestos. ACM products currently not banned include, but are not limited to, asbestos-cement corrugated sheet, asbestos-cement flat sheet, pipeline wrap, roofing felt, vinyl-asbestos floor tile, asbestos-cement shingle, millboard, clutch facings, friction materials, gaskets, non-roofing coatings, and roof coatings.<sup>811</sup>

No airport-wide surveys for asbestos have been conducted at LAX. However, surveys of some structures have been completed, and asbestos removal has occurred in some buildings. Due to the age of most structures within the Master Plan boundaries, and the legal use of building materials containing ACMs from existing building supplies even after 1978, it is likely that ACMs are present in a substantial percentage of structures. In response, a site-specific Asbestos Abatement Specification is prepared by LAWA for any airport facility planned to be renovated or demolished. The objective of the Asbestos Abatement Specification is to protect the worker and make sure ACM debris is properly managed. At the Scattergood Fuel Farm site, asbestos was used to insulate the supply and delivery piping and the tanks.<sup>812</sup> There are no facilities on the proposed oil refinery fuel farm site that are likely to contain asbestos.

### **Polychlorinated Biphenyls**

PCBs are defined as any of several industrial compounds produced by chlorination of biphenyl that are known to have toxic and carcinogenic health effects. Manufacture of PCBs was completely banned in the U.S. in January 1979, and their distribution in commerce was prohibited effective July 1979. PCBs were commonly contained in various fluids used for operation of electrical equipment, primarily transformers

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<sup>811</sup> U.S. Environmental Protection Agency, [Asbestos Home Page](http://www.epa.gov/opptintr/asbestos), Available: <http://www.epa.gov/opptintr/asbestos>, [September 2, 2000].

<sup>812</sup> Los Angeles Department of Water and Power, [Phase I Environmental Site Assessment for the Tank Farm Area of the Scattergood Generating Station](#), November 1997.

and capacitors. In addition, the ballasts of some fluorescent lights manufactured prior to January 1979 may also contain PCBs.

The manufacture, processing, distribution in commerce, use, clean-up, storage, and disposal of PCBs are addressed under TSCA. The specific USEPA regulations controlling PCBs can be found in 40 CFR 750 and 761. These regulations require workers to wear protective clothing or equipment to protect dermal contact or inhalation of PCBs or materials containing PCB materials. All disposal activity of PCB material must adhere to common-sense safety handling and the provisions of the USEPA regulations. Disposal of PCB liquid and waste are regulated at the state level under California Health and Safety Code, Division 20, Chapter 6.5.

LAWA initiated a program to identify and remove all PCB-containing electrical transformers at LAX. However, a multitude of fluorescent light ballasts are used within the Master Plan boundaries; PCBs are likely contained in some of these fixtures. There are three electrical distribution stations at LAX, DS-47, DS-139, and DS-225. Another distribution station, DS-111 is located within the acquisition areas. In addition, DS-58 is located outside the Master Plan boundaries but services facilities within the LAX area. The locations of these electrical distribution stations are identified in Section 4.17.1, *Energy Supply*. Under federal regulations, waste with a concentration of less than 50 ppm may be defined as non-PCB waste. Under state regulations, waste must have a concentration below 5 ppm PCB to be defined as a non-PCB waste. According to the Los Angeles Department of Water and Power (LADWP), all of the electrical equipment operated by the LADWP is non-PCB-containing equipment per USEPA standards (less than 50 parts per million (ppm)). However, there may still be trace amounts of PCBs (<50 ppm) in the equipment.

Specifically, the contents of the insulating oil in the transformers and associated equipment at DS-111 have been tested by LADWP and determined to contain concentrations below the USEPA standard of 50 ppm. However, some of the transformers have been tested and shown to contain between 1 and 40 ppm,<sup>813</sup> which would be considered a hazardous waste under state regulations.

### Lead-Based Paints

Lead was commonly used in residential paint until the 1950s, and was not completely phased out until the 1970s. Lead is a hazard when ingested or inhaled in unsafe amounts. Highly dangerous to humans, especially children, lead poisoning can result in reduced intelligence, behavioral problems, learning disabilities and permanent brain damage.

Lead is still present in commercial paint. Therefore, it is likely that lead-based paints exist within the Master Plan boundaries. In response, a site-specific Lead-Based Paint Abatement Specification is prepared by LAWA for any airport facility planned to be renovated or demolished. The objective of the Lead-Based Paint Abatement Specification is to protect the worker and make sure lead debris is properly managed per the HWCL.

## 4.23.4 Thresholds of Significance

### 4.23.4.1 CEQA Thresholds of Significance

A significant hazardous materials impact would occur if the direct and indirect changes in the environment that may be caused by the particular build alternative would potentially result in one or more of the following future conditions:

- ◆ An unauthorized and uncontrolled release of a hazardous material that created a hazard to the public or the environment.
- ◆ Exposure of workers to hazardous materials in excess of Occupational Safety and Health Administration's (OSHA) permissible exposure limits.
- ◆ Handling of acutely hazardous materials within ¼ mile of a school.
- ◆ Contamination of soil or groundwater or prevention of clean up of sites that are currently undergoing soil or groundwater remediation.

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<sup>813</sup> Giddings, Don, Staff Engineer of Power Distribution, Los Angeles Department of Water and Power, Letter to Mr. Erik Jorgensen, Camp Dresser & McKee Inc., Subject: Transformer Oil Test, July 13, 2000.

## 4.23 Hazardous Materials

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- ◆ Impairment of the effective implementation of an adopted emergency response plan.
- ◆ An exceedance in the capacity of regional treatment, storage, and disposal facilities due to project-related increases in hazardous waste generation.

These thresholds of significance are utilized because they address the potential concerns relative to hazardous materials associated with the Master Plan alternatives, namely, safety of construction workers and the general public associated with hazardous materials and hazardous wastes; remediation of existing environmental contamination; and adequate disposal capacity for hazardous waste. The thresholds reflect those contained in the *Draft L.A. CEQA Thresholds Guide* that are relevant to this project as well as relevant issues identified in Appendix G of the State CEQA Guidelines. Thresholds associated with issues that are not covered in these sources were developed specifically to address potential impacts associated with the Master Plan alternatives relative to hazardous materials. Other thresholds relative to human health and safety are included in Section 4.24, *Human Health and Safety*.

### 4.23.4.2 Federal Standards

As indicated in subsection 4.23.3, *Affected Environment/Environmental Baseline*, there are a number of federal standards that govern the production, use, storage, transport, and disposal of hazardous materials. There are no federal standards that establish thresholds of significance for hazardous materials impacts for purpose of analysis under NEPA.

### 4.23.5 Master Plan Commitments

As addressed in subsection 4.23.6, *Environmental Consequences*, implementation of any of the Master Plan alternatives would have potential impacts related to hazardous materials. In recognition of these potential impacts, LAWA has included the two commitments listed below in the Master Plan, coded "HM" for "hazardous materials."

- ◆ **HM-1. Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D).**

Prior to initiating construction of a Master Plan component, LAWA will conduct a pre-construction evaluation to determine if the proposed construction will interfere with existing soil or groundwater remediation efforts. For sites currently on LAX property, LAWA will work with tenants to ensure that, to the extent possible, remediation is complete prior to the construction. If remediation must be interrupted to allow for Master Plan-related construction, LAWA will notify and obtain approval from the regulatory agency with jurisdiction, as required, and will evaluate whether new or increased monitoring will be necessary. If it is determined that contamination has migrated during construction, temporary measures will be taken to stop the migration. As soon as practicable following completion of construction in the area, remediation will be reinstated, if required by the Regional Water Quality Control Board (RWQCB) or another agency with jurisdiction. In such cases, LAWA will coordinate the design of the Master Plan component and the re-design of the remediation systems to ensure that they are compatible, and to ensure that the proposed remediation system is comparable to the system currently in place. If it is determined during the pre-construction evaluation that construction will preclude reinstatement of the remediation effort, LAWA will obtain approval to initiate construction from the agency with jurisdiction.

For properties to be acquired as part of the Master Plan, LAWA will evaluate the status of all existing soil and groundwater remediation efforts. As part of this evaluation, LAWA will assess the projected time required to complete the remediation activities and will coordinate with the land owner and the agency with jurisdiction to ensure that remediation is completed prior to scheduled demolition and construction activities, if possible. In cases where remediation cannot be completed prior to demolition and construction activities, LAWA will undertake the same steps required above, namely, an evaluation of the need to conduct monitoring; implementation of temporary measures to stop migration, if required; and reinstatement of remediation following completion of construction, if required.

### ◆ **HM-2. Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D).**

Prior to the initiation of construction, LAWA will develop a program to coordinate all efforts associated with the handling of contaminated materials encountered during construction. The intent of this program will be to ensure that all contaminated soils and/or groundwater encountered during construction are handled in accordance with all applicable regulations. As part of this program, LAWA will identify the nature and extent of contamination in all areas where excavation, grading, and pile-driving activities are to be performed. LAWA will notify the appropriate regulatory agency when contamination has been identified. If warranted by the extent of the contamination, as determined by the regulatory agency with jurisdiction, LAWA will conduct remediation prior to initiation of construction. Otherwise, LAWA will incorporate provisions for the identification, segregation, handling and disposal of contaminated materials within the construction bid documents. In addition, LAWA will include a provision in all construction bid documents requiring all construction contractors to prepare site-specific Health and Safety Plans prior to the initiation of grading or excavation. Each Health and Safety Plan would include, at a minimum, identification/description of the following: site description and features; site map; site history; waste types encountered; waste characteristics; hazards of concern; disposal methods and practices; hazardous material summary; hazard evaluation; required protective equipment; decontamination procedures; emergency contacts; hospital map and contingency plan.

In the event that any threshold of significance listed in the Hazardous Materials section of the EIS/EIR for the LAX Master Plan is exceeded due to the discovery of soil or groundwater contaminated by hazardous materials, or if previously unknown contaminants are discovered during construction or a spill occurs during construction, LAWA will notify the lead agency(ies) with jurisdiction and take immediate and effective measures to ensure the health and safety of the public and workers and to protect the environment, including, as necessary and appropriate, stopping work in the affected area until the appropriate agency has been notified.

The following Master Plan commitments from other environmental disciplines are also relevant to this analysis:

- ◆ **C-1. Establishment of a Ground Transportation/Construction Coordination Office (Alternatives A, B, C, and D).**
- ◆ **ST-9 through ST-22. Surface Transportation commitments that would alleviate potential construction traffic impacts (see Section 4.3, *Surface Transportation* (subsection 4.3.2.5)).**

The above commitments are provided in their entirety in Chapter 5, *Environmental Action Plan*.

### **4.23.6 Environmental Consequences**

This section describes the potential environmental impacts of the No Action/No Project Alternative and the four build alternatives. For each alternative, the potential effects are discussed as they relate to hazardous materials usage and hazardous waste generation, hazardous contamination and remediation, and hazardous building materials. The discussion of hazardous materials usage and hazardous waste generation addresses the effect of each alternative on the amount of hazardous materials used and hazardous wastes generated. It then compares this amount with baseline conditions and evaluates how any changes in hazardous materials usage would affect the probability of accidents and releases due to storage, handling, and transport.

The hazardous contamination and remediation section addresses the potential for each alternative to preclude cleanup of soil and groundwater currently undergoing remediation, and to expose workers to contaminated soils and groundwater during construction. The final section under each alternative evaluates the potential for construction workers to be exposed to hazardous building materials during renovation and demolition.

As described in the Analytical Framework discussion in the introduction to Chapter 4, the basis for determining impacts under CEQA is different from that of NEPA. Under CEQA, the impacts of a proposed project and alternatives are measured against the "environmental baseline," which is normally the physical conditions that existed at the time the Notice of Preparation was published (i.e., June 1997, or 1996 when a full year of data is appropriate, for the LAX Master Plan Draft EIS/EIR). As such, the

## 4.23 Hazardous Materials

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CEQA analysis in this Final EIS/EIR uses the environmental baseline, or in some cases an "adjusted environmental baseline," as the basis by which to measure and evaluate the impacts of each alternative. Under NEPA, the impacts of each action alternative (i.e., build alternative) are measured against the conditions that would otherwise occur in the future if no action were to occur (i.e., the "No Action" alternative). As such, the NEPA analysis in this Final EIS/EIR uses the No Action/No Project Alternative as the basis by which to measure and evaluate the impacts of each build alternative (i.e., Alternatives A, B, C, and D) in the future (i.e., at buildout in 2015 or, for construction-related impacts, selected future interim year). Based on this fundamental difference in the approach to evaluating impacts, the nature and significance of impacts determined under CEQA are not necessarily representative of, or applicable to, impacts determined under NEPA. The following presentation of environmental consequences should, therefore, be reviewed and considered accordingly.

### 4.23.6.1 No Action/No Project Alternative

#### Hazardous Materials Usage/Hazardous Waste Generation

##### **Increased Use of Hazardous Materials/Generation of Hazardous Waste**

Under the No Action/No Project Alternative, the number of flights, the level of cargo activity, and light maintenance of aircraft, ground service equipment, and other ground vehicles would increase over baseline conditions. As part of this alternative, land uses within the ANMP properties would be demolished and LAX Northside and Continental City would be built out with offices, hotels, retail stores, restaurants, a research and development business park, and airport-related uses under a separate action underway by LAWA. Although hazardous materials use and hazardous waste generation within the ANMP properties would be eliminated, it is anticipated that hazardous materials use/storage and hazardous waste generation within the Master Plan boundaries would increase,<sup>814</sup> given the overall intensification of airport-related activities (e.g., increases in cargo and passenger operations) and the introduction of new land uses. The types of additional hazardous wastes generated under the No Action/No Project Alternative are expected to be similar to those now generated, such as used motor oil, spent cleaning solvents, and wastes from remediation of accidental spills or leaks.

Potential increases in hazardous materials use and hazardous waste generation would be partially offset by regulations requiring reduced use of these substances. Implementation of SCAQMD Rule 1171, and SCAQMD Rule 1122, which requires the use of lower volatile organic carbon (VOC) content solvents for degreasing operations, including the substitution of non-VOC solvents where possible, as well as reuse of solvents in a closed-loop system, is expected to decrease the generation of hazardous waste. In addition, compliance with SB 14 would help to reduce the amount of hazardous waste generated on-site and transported off-site for treatment or disposal.

Potential impacts associated with increases in hazardous materials use and hazardous waste generation can result from hazardous materials releases during handling or transport, interference with emergency response plans, and limits in hazardous waste disposal capacity. These impacts are addressed below.

##### **Hazardous Materials Spills and Releases**

An increase in hazardous materials use and hazardous waste generation at LAX could potentially increase the chances of a spill or release of these substances during handling or storage. However, underground releases are in fact less likely to occur in the future, as compared to the past, due to the promulgation of new state and federal standards for USTs, ASTs, and associated piping. Standards for USTs and associated piping require leak detection, corrosion protection, spill/overflow protection, and secondary containment. They also cover reporting of releases and corrective actions, on-site practices, record keeping, and closure standards. AST standards include secondary containment requirements. LAWA and tenant activities that exceed regulatory thresholds for hazardous materials storage are required to meet these standards, as well as additional regulations described in RCRA, the Emergency Planning and Community Right-to-Know Act, OSHA, federal and state UST regulations, the Oil Pollution Act (OPA), the Aboveground Petroleum Storage Act, and LAFD regulations (see subsection 4.23.3,

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<sup>814</sup> As indicated earlier in subsection 4.23.3, *Affected Environment/Environmental Baseline*, heavy maintenance activities at LAX have been decreasing over the past decade. If this trend continues, it is possible that there may be a net decrease in hazardous materials use and hazardous waste generation at LAX. However, for purposes of this evaluation, it is assumed that hazardous materials use and hazardous waste generation would increase in proportion to increased operations.

*Affected Environment/Environmental Baseline*). These regulations encompass storage and handling, as well as worker training and emergency response. In addition, the existing LAWA Storm Water Pollution Prevention Plan (SWPPP) includes measures to prevent spills and to respond to spills that do occur. Impacts associated with spills that could not be contained at their source are addressed in Section 4.24.3, *Safety*.

Compliance with the regulations and procedures outlined above, including strict federal and state standards for the construction and operation of USTs, would reduce the likelihood of accidental spills and releases and would minimize the effects of those that did occur.

Construction activities would also require the use and transport of hazardous substances, including fuels for construction equipment. As such, there is the potential for an accidental discharge of hazardous substances during construction activities. Compliance with safety precautions and regulatory requirements identified in subsection 4.23.3, *Affected Environment/Environmental Baseline*, would reduce the risk of an accidental release of hazardous materials during construction.

### **Air Transport of Hazardous Substances**

Cargo operators at LAX currently transport a variety of hazardous materials by air. Under the No Action/No Project Alternative, cargo operations are projected to increase by 64 percent over baseline conditions. As part of the general increase in cargo activity, increases in the air transport of hazardous materials could be expected. FAA is responsible for ensuring the safety of the U.S. air travel system, including the air transport of hazardous materials. Federal regulations pertaining to air transport of hazardous materials are found in 49 CFR Part 175. Stringent FAA regulations require appropriate packaging, labeling and shipping papers to ensure proper handling, and employee training in hazardous cargo handling. In addition, certain substances are considered too hazardous for air transport, and are therefore banned from aircraft.

Within California, regulatory authority over intra-state air transport of hazardous materials is exercised by the CPUC. This authority allows CPUC to suspend the state "certificate of public convenience and necessity" of any carrier found by the relevant federal agency to be operating in violation of federal safety regulations. Instructions and guidelines for international air transport of hazardous materials are contained within the ICAO's Technical Instructions. These instructions contain provisions relative to materials classification, manifest requirements, packaging, and training.

Compliance with these regulations and routine precautions would minimize the likelihood of accidents involving the air transport of hazardous substances.

### **Ground Transport of Hazardous Substances**

Increased passenger and cargo activities under the No Action/No Project Alternative, as well as the addition of office and light industrial uses within LAX Northside and Continental City, would likely result in an increase in the amount of hazardous materials and wastes transported to and from LAX by ground vehicles compared to baseline conditions. The primary hazardous material used at the airport, by volume, is jet fuel. The increased use of jet fuel would not result in an increase in the surface transport of hazardous materials or hazardous wastes since it is mainly delivered through underground pipelines. However, the ground transport of other hazardous materials and wastes (e.g., solvents, cleaning agents, and lubricants) would increase.

With an increase in the transport of hazardous materials/wastes on airport and public roadways, the potential for a ground transport accident involving hazardous materials/wastes would increase. As with air transport, the ground transportation of hazardous substances is highly regulated. The likelihood of ground transport accidents would be minimized by using the proper packaging and labeling, and training drivers and employees in handling procedures. Haulers who transport hazardous waste must be licensed, and wastes must be packaged in drums and containers that meet USDOT guidelines. In the event of an accident, local emergency response plans would be implemented.

Regulations governing the ground transport of hazardous materials are outlined in the Hazardous Materials Transportation Act; transport of hazardous waste is addressed in the California HWCL and RCRA. Compliance with these and other regulations would reduce the potential for accidents to occur and would minimize the impact of an accident should one occur.

## **4.23 Hazardous Materials**

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### **Hazardous Waste Disposal**

As indicated above, it is expected that increased activity levels associated with the No Action/No Project Alternative would increase the generation of hazardous waste at LAX compared to baseline conditions. As discussed in subsection 4.23.3, *Affected Environment/Environmental Baseline*, hazardous waste generated at LAX is removed by private contractors and delivered to treatment, recycling, and disposal facilities both within and outside the Los Angeles region. The most recent projection of regional treatment and disposal capacity is contained in SCAG's *1994 Regional Comprehensive Plan and Guide*. Although this document identifies a shortfall in the capacity of many types of treatment facilities by 2010, DTSC has indicated that regional treatment, disposal, and recycling facilities that accept the types of waste typically generated at LAX have sufficient capacity to meet future requirements. If shortfalls were to occur, it can be assumed that the industry would create sufficient capacity to meet demand, including any potential demand associated with the No Action/No Project Alternative. Alternately, waste generators may be required to transport their waste to more remote facilities. While future disposal may not be as convenient as at present, waste generators would have the option of using these facilities or reducing their hazardous waste streams.

### **Other Impacts Related to Hazardous Materials Usage/Hazardous Waste Generation**

The No Action/No Project Alternative would not involve the handling of acutely hazardous materials within one-quarter mile of a school. Therefore, consultation with, or notification of, school districts, as specified in Public Resources Code Section 21151.4, would not be required.

No roadway improvements or modifications are proposed as part of the No Action/No Project Alternative. Roadway access to, from, and around the airport would be similar to existing access. Therefore, the No Action/No Project Alternative would not interfere with an adopted emergency response plan or emergency evacuation plan.

### **Hazardous Materials Contamination and Remediation**

Under the No Action/No Project Alternative, several previously approved projects would be implemented on the existing airport property. None of these projects involve a substantial amount of excavation or grading in areas of known contamination and remediation. Known soil and groundwater contamination at LAX is described in subsection 4.23.3, *Affected Environment/Environmental Baseline*, and is illustrated in **Figure F4.23-1**. It is likely that additional contamination is present at LAX that has not yet been discovered.

There are a few projects, mainly taxiway improvements, which may involve grading in areas of known soil contamination. During construction of these projects, contaminated soils could be unearthed, potentially exposing construction workers to hazardous materials. This exposure can be minimized, however, by various measures, as outlined in federal, state, and local regulations.

In compliance with SCAQMD's Rule 1166, air monitoring to detect the presence of chemicals would be required for excavation involving underground tank or pipeline removal, and excavation of VOC contaminated soil in excess of one cubic yard, even if the source of contamination is unknown. If contamination were discovered during construction, a site assessment would be required to determine the extent. Based on the site assessment, regulatory agencies would determine the appropriate level of remediation. Contaminated soils would likely be remediated through in-situ processes or through excavation and disposal off-site. If contaminated perched water were encountered, treatment may be required, followed by disposal or off-site recycling. During excavation and remediation, strict compliance with existing federal and state regulations that address worker training and protective equipment and establish exposure limits would protect the health and safety of construction workers by minimizing the risk of exposure to contamination.

Due to the many safety measures in place that control the discovery, handling, remediation, and ultimate disposal of contaminated materials encountered during construction, worker health and safety and the environment would be protected to the maximum extent possible.

### **Hazardous Building Materials**

Under the No Action/No Project Alternative, existing structures within the ANMP areas would be acquired and demolished. As indicated in subsection 4.23.3, *Affected Environment/Environmental Baseline*,

hazardous building materials are known to be, or suspected of being, present in the structures within the ANMP acquisition areas. Construction workers could potentially encounter and be exposed to these hazardous building materials during building demolition. However, exposure can be controlled by a variety of measures outlined in federal, state, and local regulations.

The measures required by law include pre-demolition assessments of potential exposure to hazardous building materials, engineering and work practice controls, personal protective equipment for workers, and medical monitoring of workers. The procedures required would vary with the type of building material encountered. In the case of asbestos, prior to demolition, each structure that has not already been surveyed for asbestos would require inspection by a qualified asbestos specialist. In the case of lead, an employee exposure assessment based on working environment and job duties must be conducted prior to the start of work. For both asbestos and lead, air monitoring is required during removal activities. For all hazardous building materials, workers must have the appropriate training, personal protective equipment, and medical monitoring. Waste generated from hazardous building-materials removal would need to be characterized in order to meet requirements governing proper disposal.

Regulations regarding required exposure control measures and waste disposal are contained in TSCA, OSHA, RCRA, NESHAP, SCAQMD Rule 1403, and the HWCL. By complying with these regulations, the demolition and renovation of existing structures would not result in the exposure of construction workers or the general public to hazardous building materials in excess of regulatory levels

### 4.23.6.2 Alternative A - Added Runway North

#### Hazardous Materials Usage/Hazardous Waste Generation

##### **Increased Use of Hazardous Materials/Generation of Hazardous Waste**

Under Alternative A, passenger and cargo activities would increase over baseline conditions, with an anticipated increase in the use and storage of hazardous materials and generation of hazardous wastes associated with these activities. Master Plan improvements, however, would reduce square footage for heavy maintenance of aircraft, which would be replaced, in part, by additional facilities for light maintenance of aircraft and ground support equipment (GSE).

As with the No Action/No Project Alternative, potential increases in hazardous materials use and hazardous waste generation associated with Alternative A would be partially offset by reduction measures included in regulations such as SCAQMD Rule 1122 and Rule 1171, and SB 14. However, for purposes of this analysis, it is assumed that there would be an increase in both hazardous materials use and hazardous waste generated over baseline conditions. Some increases in hazardous materials can be estimated more readily. Implementation of Alternative A would approximately double the use of sulfuric acid at LAX, compared with baseline conditions and the No Action/No Project Alternative, resulting from the construction of a new Central Utility Plant (CUP) and the doubling of capacity for cooling tower water. As indicated in subsection 4.23.3, *Affected Environment/Environmental Baseline*, sulfuric acid is an acutely hazardous material and subject to stringent regulations. LNG/CNG usage would also increase over baseline levels. Projected consumption of LNG/CNG under Alternative A is provided in Section 4.17.1, *Energy Supply*. Potential impacts associated with upset conditions at the CUP and the LNG/CNG Facility are addressed in Section 4.24.3, *Safety*.

In addition to an intensification of airport-related activities within the existing LAX boundaries, under Alternative A, residential and commercial land uses would be acquired and replaced by airport-related uses. While hazardous materials and wastes are currently used and generated within the acquisition areas, the conversion of these areas to airport-related uses may result in greater utilization of hazardous materials and generation of hazardous wastes. Usage may increase for typical hazardous materials, such as motor oils, solvents, and industrial cleaners. In addition, as part of Alternative A, Westchester Southside would be developed with mixed uses, including offices, hotels, commercial, retail, and research and development facilities. Hazardous materials, such as cleaning fluids, solvents, and lubricants, would be used throughout these facilities.

Potential impacts associated with increases in hazardous materials use and hazardous waste generation can result from hazardous materials releases during handling or transport, interference with emergency response plans, and limited hazardous waste disposal capacity. These impacts are addressed below.

### Hazardous Materials Spills and Releases

As indicated under the No Action/No Project Alternative, an increase in hazardous materials use and hazardous waste generation, during routine operations as well as during construction, would increase the chances of a spill or release of these substances. Because hazardous materials use would potentially increase beyond levels associated with the No Action/No Project Alternative, particularly the use of hazardous materials during construction, the likelihood of a spill or release could increase and the magnitude of the impact could be greater. It is anticipated that greater numbers of underground storage tanks would be in use at LAX under Alternative A to store additional hazardous materials, particularly fuels. Under Alternative A, the existing fuel farm would be relocated and expanded. Quantities of fuel stored in ASTs at the expanded fuel farm would increase under this alternative. As discussed in Section 4.7, *Hydrology and Water Quality*, there is currently a retention basin located in the southwestern portion of LAX. The retention basin captures a small amount of stormwater runoff as well as dry weather flows, including spills, from a portion of the airport where a majority of maintenance activities are performed. The retention basin would be removed under Alternatives A, B, and C.

As with the No Action/No Project Alternative, the handling and storage of hazardous substances, including the transport of substances by pipeline, is stringently regulated. As discussed in subsection 4.23.3, *Affected Environment/Environmental Baseline*, releases of hazardous materials are subject to stringent regulations, including emergency response and cleanup procedures. LAWA has procedures already in place to reduce hazardous materials-related incidents and spills. If a spill were to occur, emergency response procedures would be implemented to contain and clean up the spill. These regulations and provisions are in place so potential spills and releases would not create a hazard to the public or the environment, and would not result in contamination of soil or groundwater. Therefore, impacts would be less than significant.

### Air Transport of Hazardous Substances

With implementation of Alternative A, cargo handling activities would increase by 120 percent over baseline conditions and 34 percent over the No Action/No Project Alternative. This intensification would likely increase the amount of hazardous materials transported by air. As indicated under the No Action/No Project Alternative, the air transport of hazardous materials is stringently regulated, with requirements for proper packaging, labeling, and handling. Therefore, while increases in air cargo operations could increase the amount of hazardous materials transported by air at LAX, the impacts from such increases would be less than significant.

### Ground Transport of Hazardous Substances

Increases in passenger and cargo activities over baseline conditions, coupled with the build out of Westchester Southside, would increase the amount of hazardous materials and wastes transported to and from LAX by ground vehicles. Although the land uses at Westchester Southside, which are predominantly office, hotel, retail, restaurant, and business park uses, would require fewer hazardous materials and generate less hazardous waste than those of LAX Northside, which includes more industrial uses, hazardous materials and wastes would still be transported to and from Westchester Southside. With the exception of jet fuel, which would be delivered by pipeline, these substances would be transported to and from the airport by ground vehicles traveling on airport and public roadways. (Potential impacts associated with increased underground storage and delivery of jet fuel are addressed under *Hazardous Materials Spills and Releases*, above.) The added ground transportation would increase the potential of an accident involving hazardous materials or wastes.

As indicated under the No Action/No Project Alternative, proper materials packaging and handling, coupled with employee training and emergency response, as outlined in the Hazardous Materials Transportation Act, the HWCL, and RCRA, among others, would reduce potential impacts of the increased ground transport of hazardous materials/wastes to a level that is less than significant.

### Hazardous Waste Disposal

As indicated above, it is likely that increased activity levels associated with Alternative A would result in an increase in the generation of hazardous waste at LAX as compared to baseline conditions and the No Action/No Project Alternative. As discussed under the No Action/No Project Alternative above, hazardous waste treatment, recycling, and disposal capacity is a market-driven commodity. The likely increase in

hazardous waste generation under Alternative A would be met with either an increase in regional capacity, if necessary, or transportation to more remote facilities. Additionally, sufficient regional capacity is expected to be available. Therefore, the impact of increased hazardous waste generation under Alternative A would be less than significant.

### **Other Impacts Related to Hazardous Materials Usage/Hazardous Waste Generation**

Under Alternative A, the use of sulfuric acid, an acutely hazardous material, would increase as compared to baseline conditions and the No Action/No Project Alternative. The additional sulfuric acid would be used to treat cooling tower water at the CUP to be constructed adjacent to the West Terminal Area, just east of Pershing Drive. There are no schools located within one-quarter mile of the proposed CUP. Therefore, consultation with, or notification of, school districts, as specified in Public Resources Code Section 21151.4, would not be required.

Implementation of Alternative A would substantially alter ground access to, from, and around LAX. During construction, many local arterials would be closed for varying periods; however, roadway access would be maintained by construction of detours and diversions. Details on roadway access changes are provided in Section 4.4.4, *Community Disruption and Alteration of Surface Transportation Patterns*. A lack of adequate access could impair the effective implementation of adopted emergency response plans by impeding the movement of emergency vehicles. Because local access would be adequately maintained through detours and diversions and emergency access would be coordinated and ensured through Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office (Alternatives A, B, C, and D), and Master Plan Commitments ST-9 through ST-19 identified in Section 4.3, *Surface Transportation*, project-related construction would not significantly impair the implementation of emergency response plans, and impacts would be less than significant.

The impacts related to interference with an adopted emergency response plan or emergency evacuation plan under Alternative A, while less than significant, would be greater than those under the No Action/No Project Alternative, which does not include roadway improvements or modifications.

### **Hazardous Materials Contamination and Remediation**

Under Alternative A, grading and excavation would be conducted throughout the airport and acquisition areas. This grading and excavation would be required in areas of known contamination and remediation, shown in relation to Alternative A improvements in **Figure F4.23-2** and **Figure F4.23-4**, Existing Soil and Groundwater Contamination and Remediation, Alternative A. All of the sites identified in these figures currently have, or have had, soil or groundwater contamination. Some of these sites have been closed, others have planned or ongoing remediation, and some are still under investigation. There also may be areas of contamination not yet discovered. Improvements that would require substantial excavation in areas of known contamination include the following:

- ◆ West Terminal Area
- ◆ Automated People Mover
- ◆ Green Line

The discussion below addresses the potential for Alternative A improvements to prevent clean up of sites now undergoing extensive remediation, and the potential for construction workers to be exposed to hazardous materials encountered during construction.

### **Impacts to Current or Planned Remediation Projects**

Numerous soil and groundwater remediation projects are planned or underway both at LAX and within the acquisition areas. In some cases, Alternative A improvements are proposed in areas where remediation systems are located. Construction of these improvements and associated demolition of existing facilities have the potential to require the closure of some of these remediation systems. Specifically, LAXFUEL's BFSF and Continental's Maintenance Facility have existing groundwater remediation systems in areas of proposed improvements, and soil remediation is planned at Taxiway 75, also in an area of proposed improvements. Improvements in the vicinity of these facilities may be initiated before the soil and groundwater remediation in this area are complete.

## 4.23 Hazardous Materials

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The following Master Plan components would have the greatest potential for conflicts with ongoing or planned remediation efforts, due to the substantial excavation required for their implementation and the nature and extent of remediation underway in these areas:

- ◆ Concourse 12, the linear concourse on the west side, which would be constructed in the vicinity of LAXFUEL's BFSF and Continental's Maintenance Facility.
- ◆ Concourse 13, adjacent to the West Terminal, which would be constructed in the vicinity of Taxiway 75 and may be affected by contamination from Continental's Maintenance Facility.
- ◆ The Automated People Mover, which would be constructed in the vicinity of LAXFUEL's BFSF and may be affected by contamination from Continental's Maintenance Facility.

Due to the extent of the FHP contamination associated with LAXFUEL's BFSF and Continental's Maintenance Facility, it is unlikely that the sites would be completely remediated by the time construction of Concourse 12, 13, and the Automated People Mover was initiated. The remediation systems for these sites are FHP removal systems, consisting of extraction wells, small aboveground tanks in which removed groundwater and product are stored and periodically emptied, and pipes connecting the wells with the tank. Due to the extent of excavation needed for the proposed improvements, it is likely that part, or all, of the remediation systems in operation at these two facilities would have to be removed during construction. This would entail destruction of the extraction wells and removal of underground piping and aboveground tanks. Removing the active remediation systems at the LAXFUEL BFSF and the Continental Maintenance Facility for an extended period would interfere with existing clean up efforts.

Depending on the extent of TPH soil contamination at Taxiway 75, remediation may not be complete by the time proposed improvements in the area would be constructed. It is possible that some of the contaminated soil may be removed during excavation for the construction of Concourse 13 and the Automated People Mover; however, the extent of contamination may require remediating the soil in the vicinity of Concourse 13 that would not otherwise be removed. As with the FHP remediation systems, construction may require that extraction wells and associated pipes be relocated. This would be a potentially significant impact.

Proposed improvements within the acquisition areas may also interfere with planned or ongoing remediation in these areas. Improvements in the acquisition areas primarily consist of cargo and maintenance facilities. These improvements would require less excavation and provide more physical space and design flexibility than the improvements identified above. As a result, it is likely that remediation systems could be maintained, or easily reinstated following construction. The only improvement in this area that may interfere with an existing remediation system is the construction of buildings in the Imperial Cargo Complex - East in the vicinity of the Chevron Gas Station, where there is an FHP recovery system in place.

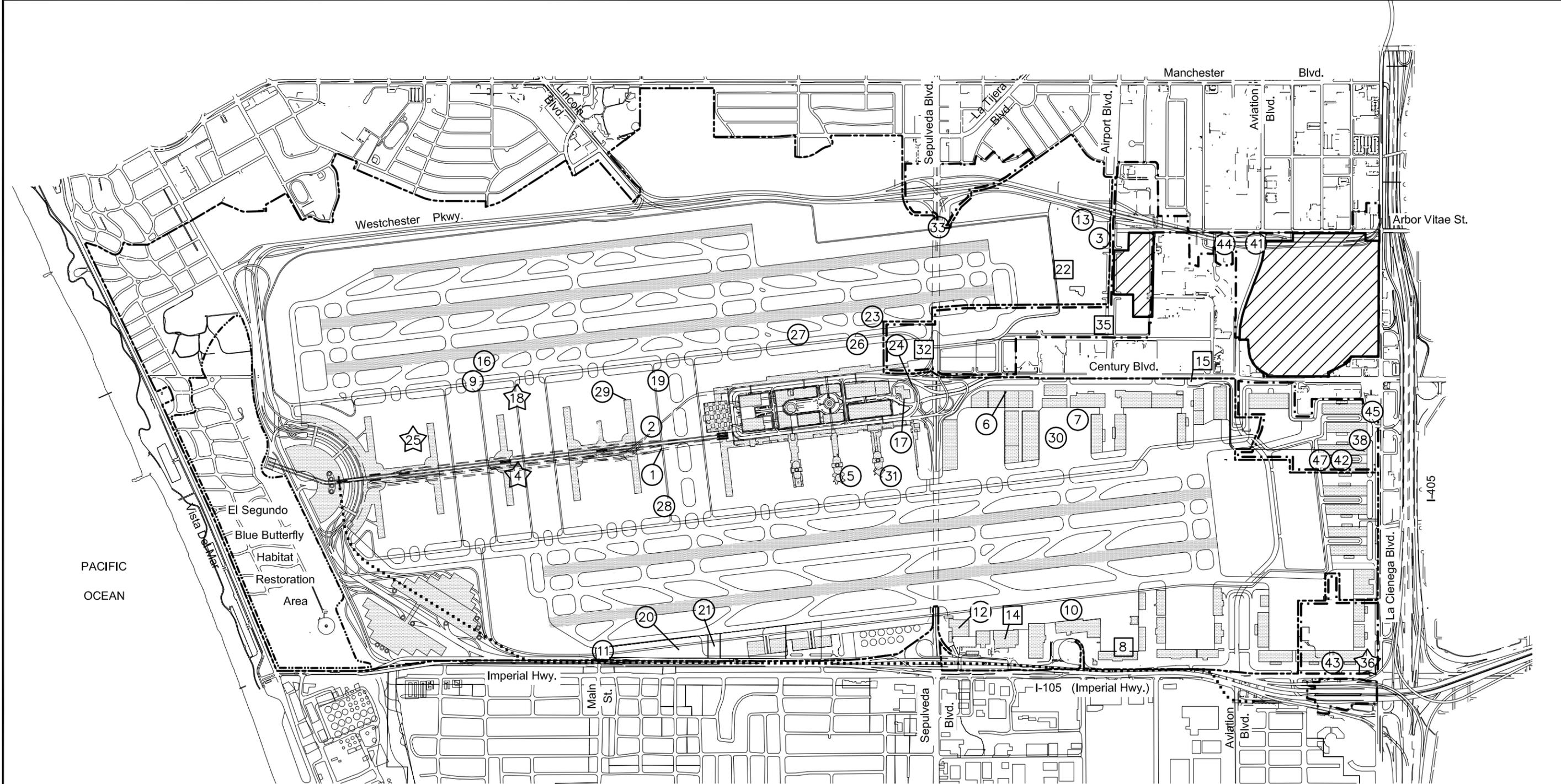
To prevent Master Plan-related construction from interfering with planned or ongoing remediation such that environmental contamination is exacerbated or permanent clean up of sites prevented, LAWA would implement Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D). Implementation of this commitment would ensure that remediation projects would be completed to the extent possible and necessary before constructing Master Plan improvements, or that alternate clean up methods would be implemented during construction to prevent contaminant migration, if necessary. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Therefore, impacts would be less than significant.

In comparison to Alternative A, the No Action/No Project Alternative would not involve a substantial amount of excavation or grading in areas of known contamination and remediation.

### Exposure to Contamination

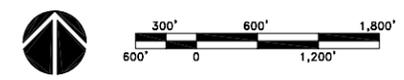
In cases where remediation has not been planned or completed, or where contamination has not yet been discovered, contaminated soils could be unearthed and contaminated groundwater could be encountered during grading and excavation. Disturbance of contaminated soils and groundwater could pose a risk of exposure to construction workers or the environment. Known soil and groundwater contamination at LAX and within the acquisition areas is described in subsection 4.23.3, *Affected Environment/Environmental Baseline*. Detailed information is presented in **Table F4.23-1**, and areas of impacts are illustrated on **Figure F4.23-2** and **Figure F4.23-4**.

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NOTES:  
 NUMBERS CORRESPOND TO TABLE F4.23-1  
 SITES 1 THROUGH 31 ARE ON LAX PROPERTY.  
 SITES 32 THROUGH 51 ARE WITHIN THE ACQUISITION AREAS.

LEGEND	
	LAX Existing Property Line
	LAX Future Property Line
	Proposed Light Rail Transit
	El Segundo Blue Butterfly Habitat Restoration Area
	ANMP Acquisition Areas
	Automated People Mover
	Site with known soil and/or groundwater contamination
	Site with planned or on-going remediation
	Site where remediation may conflict with this Master Plan alternative



Source: Environmental Data Resources, Inc., 2002, Camp Dresser & McKee Inc., 1998.



As noted above, improvements of the greatest concern include the West Terminal Area, the Automated People Mover, and the Green Line, as they would entail major excavation in areas of known soil and/or groundwater contamination. In addition, it is possible that, during other construction activities for implementation of Alternative A, previously unidentified soil and/or perched groundwater contamination could be encountered.

Exposure of construction workers to contaminated materials can be minimized through implementing the measures required by federal, state, and local laws and regulations. Nevertheless, due to the amount of grading and excavation that would be undertaken to implement Alternative A, and the number of projects that would be undertaken concurrently by different contractors throughout the construction period, LAWA would implement Master Plan Commitment HM-2, Handling of Contaminated Materials During Construction (Alternatives A, B, C, and D), to reduce further the potential adverse effects associated with excavating contaminated materials. Implementation of this commitment would ensure that contaminated materials encountered during construction are properly identified, stored, and remediated and disposed of in accordance with all applicable regulations, including those governing worker health and safety. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.

The potential impacts associated with the excavation of contaminated materials under Alternative A, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less overall construction.

### **Hazardous Building Materials**

As indicated in subsection 4.23.3, *Affected Environment/Environmental Baseline*, hazardous building materials are known to be, or are suspected of being, present in structures both at LAX and within the acquisition areas. Other hazardous materials may also be encountered during demolition activities. Construction workers could potentially encounter and be exposed to these hazardous building materials during the building demolition and renovation activities associated with implementation of Alternative A. In particular, one electrical distribution station, DS-111, may be relocated as part of this alternative. If this occurs, the station would have to be demolished and rebuilt. Because the equipment in this distribution station contains low levels of PCBs, there is a potential for worker exposure.

As described under the No Action/No Project Alternative, exposure to hazardous building materials would be minimized by implementing measures required by federal, state, and local laws and regulations, such as pre-demolition assessments of potential exposure to hazardous building materials, engineering and work practice controls, personal protective equipment for workers, and medical monitoring of workers. In addition, waste materials must be characterized and disposed of in accordance with all applicable laws and regulations.

As with the No Action/No Project Alternative, by complying with these measures, the demolition and renovation of existing structures would not result in the exposure of construction workers or the general public to hazardous building materials in excess of regulatory levels. As such, potential impacts associated with the presence of hazardous building materials at LAX and within the acquisition areas would be less than significant.

Potential impacts associated with hazardous building materials under Alternative A, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less demolition and renovation.

### **4.23.6.3 Alternative B - Added Runway South**

#### **Hazardous Materials Usage/Hazardous Waste Generation**

Impacts associated with hazardous materials usage and hazardous waste generation under Alternative B would be essentially the same as those associated with Alternative A. Alternative B would involve most of the same Master Plan improvements as Alternative A, although some would be in different locations. Moreover, this alternative would entail the same increase in passenger and cargo activities as Alternative A and the same level of development associated with Westchester Southside.

Because the use and storage of hazardous materials and generation of hazardous waste is, to some degree, related to activity levels, potential impacts associated with spills and releases, accidents during

## 4.23 Hazardous Materials

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air or ground transport, and hazardous waste treatment and disposal capacity would be the same as those associated with Alternative A. As with Alternative A, impacts associated with hazardous materials would generally be greater under Alternative B than under the No Action/No Project Alternative. By adhering to the provisions and requirements contained in a wide variety of regulations governing the use, storage, handling, and treatment/disposal of hazardous materials, the potential impacts related to increases in hazardous materials use or hazardous waste generation would be less than significant.

As with Alternative A, Alternative B would require the construction of a new West Terminal CUP, at which sulfuric acid would be used. As there are no schools located within one-quarter mile of the proposed CUP, consultation with, or notification of, school districts, as specified in Public Resources Code Section 21151.4, would not be required.

Similar to Alternative A, Alternative B would alter ground access in the vicinity of the airport, particularly during construction. However, because local access would be adequately maintained through the use of detours and diversions and emergency access would be coordinated and ensured through Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office (Alternatives A, B, C, and D), and Master Plan Commitments ST-9 through ST-19 identified in Section 4.3, *Surface Transportation*, project-related construction would not significantly impair the implementation of emergency response plans, and impacts would be less than significant.

The impacts related to interference with an adopted emergency response plan or emergency evacuation plan under Alternative B, while less than significant, would be greater than those under the No Action/No Project Alternative, which does not include roadway improvements or modifications.

### **Hazardous Materials Contamination and Remediation**

Under Alternative B, grading and excavation would be conducted throughout the airport and acquisition areas. This grading and excavation would be required in areas of known contamination and remediation, shown in relation to Alternative B improvements in **Figure F4.23-3** and **Figure F4.23-5**, Existing Soil and Groundwater Contamination and Remediation, Alternative B. Improvements that would require substantial excavation in areas of known contamination include the following:

- ◆ West Terminal Area
- ◆ Automated People Mover
- ◆ Green Line
- ◆ Off-Site Fuel Farm (Scattergood or the oil refinery located south of the airport)

Most of these improvements are the same as Alternative A. However, Alternative B would require construction of an off-site fuel farm. As with Alternative A, substantial grading and excavation has the potential to prevent clean up of contaminated sites now undergoing remediation and to expose construction workers to hazardous materials encountered during construction.

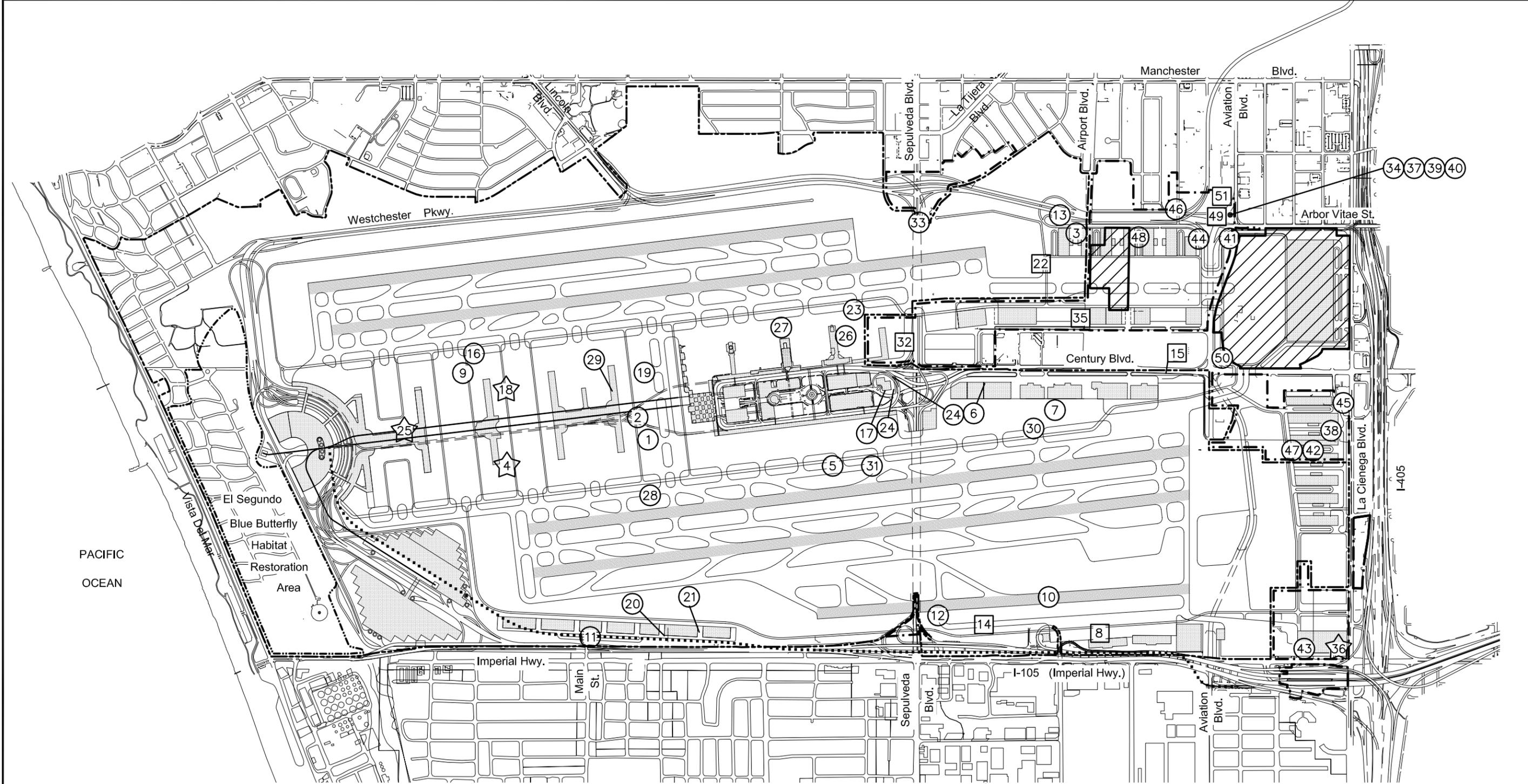
### **Impacts to Current or Planned Remediation Projects**

Alternative B would potentially affect the same remediation projects as Alternative A. However, because the proposed work is closer to the sites being remediated, Alternative B may have greater impacts. The following Master Plan components would have the greatest potential for conflicts with ongoing or planned remediation efforts, due to the substantial excavation required and the nature and extent of remediation underway in these areas:

- ◆ Concourse 12, the linear concourse on the west side, which would be constructed in the vicinity of LAXFUEL's BFSF and may be affected by contamination from Continental's Maintenance Facility.
- ◆ Concourse 13, adjacent to the West Terminal, which would be constructed in the vicinity of Taxiway 75.
- ◆ The Automated People Mover, which would be constructed in the vicinity of LAXFUEL's BFSF.

Under Alternative B, Concourse 12 and the Automated People Mover are further north than in Alternative A. Because of this placement, both improvements would be closer to the BFSF (with more overlap), which may result in more conflicts between construction of the improvements and the remediation system currently in place. As with Alternative A, Alternative B improvements may interfere with remediation associated with Continental's Maintenance Facility.

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**NOTES:**  
 NUMBERS CORRESPOND TO TABLE F4.23-1  
 SITES 1 THROUGH 31 ARE ON LAX PROPERTY.  
 SITES 32 THROUGH 51 ARE WITHIN THE ACQUISITION AREAS.

- LEGEND**
- LAX Existing Property Line
  - · - · - LAX Future Property Line
  - ..... Proposed Light Rail Transit
  - ▨ El Segundo Blue Butterfly Preserve
  - ▧ ANMP Acquisition Areas
  - ≡≡≡ Automated People Mover
  - ② Site with known soil and/or groundwater contamination
  - ⑨ Site with planned or on-going remediation
  - ★ Site where remediation may conflict with this Master Plan alternative



Source: Environmental Data Resources, Inc., 2002, Camp Dresser & McKee Inc., 1998.



As with Alternative A, Alternative B improvements in the acquisition areas consist primarily of new cargo and maintenance facilities, in which there would be less excavation and more physical room and flexibility to maintain or reinstate remediation systems. The only project in this area that may interfere with an existing remediation system is construction of buildings in the Imperial Cargo Complex - East in the vicinity of the Chevron Gas Station, where there is an FHP recovery system in place.

Implementation of Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), would ensure that remediation projects at LAX and in the acquisition areas would be completed to the extent possible, and as necessary, before constructing Master Plan improvements, or that alternate clean up methods would be implemented during construction to prevent contaminant migration, if necessary. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Therefore, no significant impacts would occur.

Under Alternative B, the on-site fuel farm would be relocated to either the Scattergood Generating Station or the oil refinery located south of the airport in order to accommodate planned concourses. As indicated previously, both of the alternate fuel farm sites contain extraction and monitoring wells for remediating contamination from historical activities at the oil refinery. Specifically, the Scattergood Fuel Farm site contains a few monitoring wells in locations that could not be avoided during construction. These wells would likely have to be destroyed and reinstalled after construction of the fuel farm. The oil refinery fuel farm site contains a few monitoring wells and an extraction well, although these are all at or near the perimeter of the site and could probably be avoided during construction. Temporary removal of the wells at either fuel farm site would not significantly impair remediation. Therefore, potential impacts associated with interference with the existing remediation system would be less than significant.

In comparison, the No Action/No Project Alternative would not involve a substantial amount of excavation or grading in areas of known contamination and remediation.

### **Exposure to Contamination**

As with Alternative A, in cases where remediation has not been planned or completed, or where contamination has not yet been discovered, contaminated soil and groundwater may be encountered during grading and excavation. Disturbance of contaminated soils and groundwater could pose a risk of exposure to construction workers or the environment.

Alternative B improvements of greatest concern include the West Terminal Area, the Automated People Mover, the Green Line, the LAX Expressway, and construction of the off-site fuel farm, as they would entail major excavation in areas of known contamination. In addition, it is possible that, during other construction activities associated with implementation of Alternative B, previously unidentified soil and perched groundwater contamination would be encountered.

As discussed under the No Action/No Project Alternative and Alternative A, exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. In addition, in recognition of the number of construction projects that would be undertaken concurrently, LAWA would implement Master Plan Commitment HM-2, Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D), to reduce further the potential adverse effects associated with the excavation of contaminated materials. Implementation of this commitment would ensure that contaminated materials encountered during construction are properly identified and remediated and disposed of in accordance with all applicable regulations, including those governing worker health and safety. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.

The potential impacts associated with the excavation of contaminated materials under Alternative B, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less overall construction.

### **Hazardous Building Materials**

As with Alternative A, demolition and renovation of existing structures on LAX and within the acquisition areas under Alternative B could disturb hazardous building materials and could pose a risk of exposure for construction workers. Other hazardous materials may also be encountered during demolition activities. Under Alternative B, the electrical distribution station, DS-111, which contains low levels of

## 4.23 Hazardous Materials

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PCBs, may be relocated. As explained under Alternative A, by implementing measures required by federal, state, and local laws and regulations, the potential impacts would be less than significant.

Potential impacts associated with hazardous building materials under Alternative B, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less demolition and renovation.

### 4.23.6.4 Alternative C - No Additional Runway

#### Hazardous Materials Usage/Hazardous Waste Generation

Under Alternative C, passenger activities would increase over baseline levels, though to a lesser degree than under Alternatives A and B. Alternative C entails many of the same improvements as Alternatives A and B, as well as the same level of development associated with Westchester Southside. Potential impacts associated with spills and releases, accidents during air or ground transport, and hazardous waste treatment and disposal capacity would be similar to those for Alternatives A and B. However, because the use and storage of hazardous materials and generation of hazardous waste is, to some degree, related to activity levels, impacts associated with Alternative C would be slightly lower than those for Alternatives A and B. In general, impacts associated with hazardous materials under Alternative C would generally be greater than under the No Action/No Project Alternative.

As with Alternatives A and B, by adhering to the provisions and requirements contained in a the variety of regulations governing the use, storage, handling, and treatment/disposal of hazardous materials and wastes, the impacts related to increases in hazardous materials use or hazardous waste generation would be less than significant.

As with Alternatives A and B, Alternative C proposes a new West Terminal CUP, at which sulfuric acid would be used. As here are no schools located within one-quarter mile of the proposed CUP, consultation with, or notification of, school districts, as specified in Public Resources Code Section 21151.4, would not be required.

Similar to Alternatives A and B, Alternative C would alter ground access in the vicinity of the airport, particularly during construction. However, because local access would be adequately maintained through the use of detours and diversions and emergency access would be coordinated and ensured through Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office (Alternatives A, B, C, and D), and Master Plan Commitments ST-9 through ST-19 identified in Section 4.3, *Surface Transportation*, project-related construction would not significantly impair the implementation of emergency response plans, and impacts would be less than significant.

The impacts related to interference with an adopted emergency response plan or emergency evacuation plan under Alternative C, while less than significant, would be greater than those under the No Action/No Project Alternative, which does not include roadway improvements or modifications.

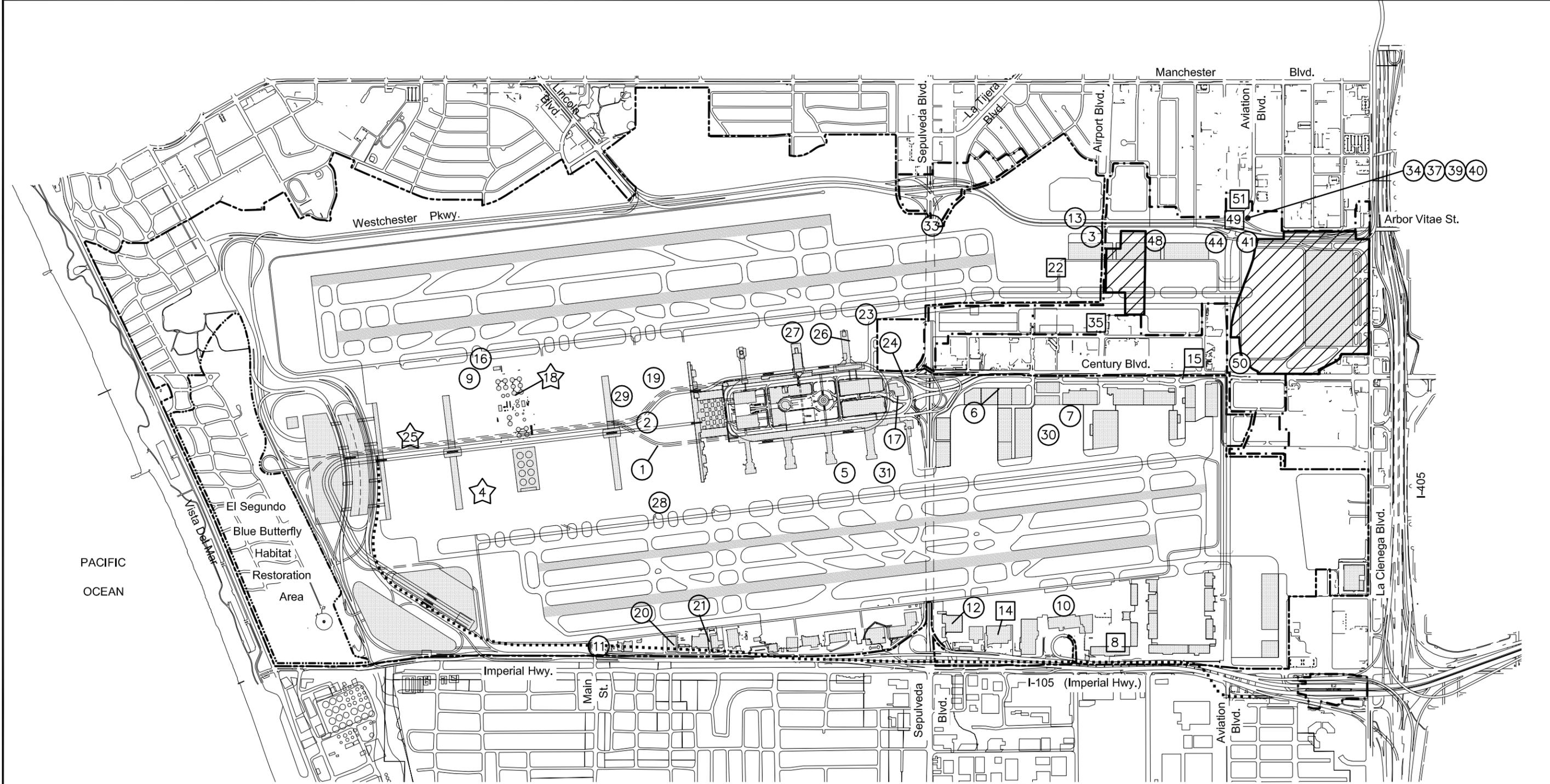
#### Hazardous Materials Contamination and Remediation

As with Alternatives A and B, grading and excavation under Alternative C would be conducted throughout the airport and acquisition areas. This grading and excavation would be required in areas of known contamination and remediation, shown in relation to Alternative C improvements in **Figure F4.23-2** and **Figure F4.23-6**, Existing Soil and Groundwater Contamination and Remediation, Alternative C. Improvements that would require substantial excavation in areas of known contamination are:

- ◆ West Terminal Area
- ◆ Automated People Mover
- ◆ Green Line
- ◆ Fuel Farm Expansion

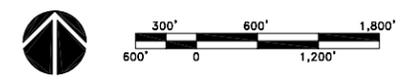
As with Alternatives A and B, substantial grading and excavation has the potential to prevent clean up of contaminated sites now undergoing remediation, and to expose construction workers to hazardous materials encountered during construction.

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**NOTES:**  
 NUMBERS CORRESPOND TO TABLE F4.23-1  
 SITES 1 THROUGH 31 ARE ON LAX PROPERTY.  
 SITES 32 THROUGH 51 ARE WITHIN THE ACQUISITION AREAS.

LEGEND	
	LAX Existing Property Line
	LAX Future Property Line
	Proposed Light Rail Transit
	El Segundo Blue Butterfly Habitat Restoration Area
	ANMP Acquisition Areas
	Automated People Mover
	Site with known soil and/or groundwater contamination
	Site with planned or on-going remediation
	Site where remediation may conflict with this Master Plan alternative



Source: Environmental Data Resources, Inc., 2002, Camp Dresser & McKee Inc., 1998.



### **Impacts to Current or Planned Remediation Projects**

Alternative C would potentially affect the same remediation projects as Alternatives A and B. Under Alternative C, the following Master Plan components would have the greatest potential for conflicts with ongoing or planned remediation efforts, due to the substantial excavation required and the nature and extent of remediation underway in these areas:

- ◆ Concourse 13, adjacent to the West Terminal, which would be constructed in the vicinity of Taxiway 75 and may be affected by contamination from Continental's Maintenance Facility.
- ◆ The Automated People Mover, which would be constructed in the vicinity of LAXFUEL's BFSF and Taxiway 75.
- ◆ The Fuel Farm expansion, which would be constructed in the vicinity of the Continental Maintenance Facility.

Alternative C would not interfere with any major remediation efforts within the acquisition areas. Implementation of Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), would ensure that remediation projects at LAX and in the acquisition areas would be completed to the extent possible and necessary before constructing Master Plan improvements, or that alternate clean up methods would be implemented during construction to prevent contaminant migration, if necessary. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Therefore, impacts would be less than significant.

In comparison, the No Action/No Project Alternative would not involve a substantial amount of excavation or grading in areas of known contamination and remediation.

### **Exposure to Contamination**

As with Alternatives A and B, in cases where remediation has not been planned or completed, or where contamination has not yet been discovered, contaminated soil and groundwater may be encountered during grading and excavation. Disturbance of contaminated soils and groundwater could pose a risk of exposure to construction workers or the environment. Alternative C improvements of greatest concern include the West Terminal Area, Automated People Mover, the Green Line, the fuel farm expansion, and the LAX Expressway, as they would entail major excavation in areas of known contamination. In addition, it is possible that, during other construction activities for implementing Alternative C, previously unidentified soil and/or perched groundwater contamination would be encountered.

As discussed under Alternatives A and B, exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. In addition, in recognition of the number of construction projects that would be undertaken concurrently, LAWA would implement Master Plan Commitment HM-2, Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D), to reduce further the potential adverse effects of excavating contaminated materials. Implementation of this commitment would ensure that contaminated materials encountered during construction are properly identified and remediated and disposed of in accordance with all applicable regulations, including those governing worker health and safety. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.

The potential impacts associated with the excavation of contaminated materials under Alternative C, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less overall construction.

### **Hazardous Building Materials**

As with Alternatives A and B, demolition and renovation of existing structures at LAX and within the acquisition areas under Alternative C could disturb hazardous building materials and could pose a risk of exposure for construction workers. Other hazardous materials may also be encountered during demolition activities. As with Alternatives A and B, electrical distribution station, DS-111, which contains low levels of PCBs, may be relocated under Alternative C. By implementing the measures required by federal, state, and local laws and regulations, the potential impacts associated with hazardous building materials would be less than significant.

## **4.23 Hazardous Materials**

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Potential impacts associated with hazardous building materials under Alternative C, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less demolition and renovation.

### **4.23.6.5 Alternative D - Enhanced Safety and Security Plan**

#### **Hazardous Materials Usage/Hazardous Waste Generation**

##### **Increased Use of Hazardous Materials/Generation of Hazardous Waste**

Under Alternative D, hazardous materials use/storage and hazardous waste generation within the Master Plan boundaries is anticipated to increase compared to baseline conditions, given the overall intensification of airport-related activities and the introduction of new land uses. The types of additional hazardous wastes generated under Alternative D are expected to be similar to those now generated, such as used motor oil, spent cleaning solvents, and wastes from remediation of accidental spills or leaks. Potential increases in hazardous materials use and hazardous waste generation would be partially offset by regulations requiring reduced use of these substances (i.e., SCAQMD Rule 1171 and Rule 1122, and SB14).

An increase in hazardous materials use and hazardous waste generation at LAX compared to baseline conditions could potentially increase the chances of a spill or release of these substances during handling or storage. Compliance with existing regulations and procedures for the handling and storage of hazardous materials/wastes, including strict federal and state standards for the construction and operation of USTs, would reduce the likelihood of accidental spills and releases and would minimize the effects of those that did occur. Therefore, impacts would be less than significant.

Under Alternative D, the amount of hazardous materials and waste transported to and from LAX by air and ground vehicles would likely increase over baseline conditions, which in turn could potentially increase the chances of a spill or release of these substances during transport activities. Compliance with existing federal, state and local regulations and routine precautions would reduce the potential for accidents to occur and would minimize the impact of an accident should one occur. Therefore, impacts would be less than significant.

Construction activities would also require the use and transport of hazardous substances, including fuels for construction equipment. As such, there is the potential for an accidental discharge of hazardous substances during construction activities. Compliance with safety precautions and regulatory requirements identified in subsection 4.23.3, *Affected Environment/Environmental Baseline*, would reduce the risk of an accidental release of hazardous materials during construction. Therefore, impacts would be less than significant.

It is anticipated that the increased hazardous waste generation associated with increased activities could be accommodated by existing treatment, storage, and disposal facilities. Therefore, the impacts of increased hazardous waste generation under Alternative D would be less than significant.

Hazardous materials usage/hazardous waste generation associated with Alternative D would be similar to that under the No Action/No Project Alternative. However, during construction activities, hazardous materials usage/hazardous waste generation under Alternative D would be greater than that under the No Action/No Project Alternative, which would result in less overall construction.

##### **Other Impacts Related to Hazardous Materials Usage/Hazardous Waste Generation**

Similar to the No Action/No Project Alternative and Alternatives A, B, and C, Alternative D would not involve the handling of acutely hazardous materials within one-quarter mile of a school. Therefore, consultation with or notification of school districts, as specified in Public Resources Code Section 21151.4, would not be required.

Roadway access to, from, and around the airport would be similar to existing access, although additional lanes would be added to some local roadways in the vicinity of the proposed GTC and ITC facilities. However, Alternative D would alter ground access in the vicinity of the airport during construction. Because local access would be adequately maintained through detours and diversions and emergency access would be coordinated and ensured through Master Plan Commitment C-1, Establishment of a

Ground Transportation/Construction Coordination Office (Alternatives A, B, C, and D), and Master Plan Commitments ST-9, ST-12, ST-14, and ST-16 through ST-22, identified in Section 4.3, *Surface Transportation*, project-related construction would not significantly impair the implementation of emergency response plans and impacts would be less than significant.

The impacts related to interference with an adopted emergency response plan or emergency evacuation plan under Alternative D, while less than significant, would be greater than those under the No Action/No Project Alternative, which does not include development of the GTC or ITC.

### **Hazardous Materials Contamination and Remediation**

Under Alternative D, grading and excavation would be conducted throughout the airport and acquisition areas. This grading and excavation would be required in areas of known contamination and remediation, shown in relation to Alternative D improvements in **Figure F4.23-7**, Existing Soil and Groundwater Contamination and Remediation, Alternative D. Improvements that would require substantial excavation in areas of known contamination are:

- ◆ Central Terminal Area/Tom Bradley International Terminal
- ◆ Landside/Airside Automated People Mover
- ◆ West Satellite Concourse
- ◆ Ground Transportation Center
- ◆ Baggage Tunnel

Substantial grading and excavation has the potential to prevent clean up of contaminated sites now undergoing remediation and to expose construction workers to hazardous materials encountered during construction.

### **Impacts to Current or Planned Remediation Projects**

Under Alternative D, the following Master Plan components would have a potential for conflicts with ongoing or planned remediation efforts:

- ◆ West Employee Parking Garage and New Maintenance Facilities, which would be constructed on the west side of the airport, within the area contaminated by the Continental Maintenance Facility.
- ◆ The Landside Automated People Mover, which would be constructed in the vicinity of LAFD Station #95, Allied Signal Aerospace, and Budget Rent-A-Car.
- ◆ The Baggage Tunnel, which would be constructed along the 98<sup>th</sup> Street corridor, near the Allied Signal Aerospace site and Budget Rent-A-Car.

Due to the relatively limited nature and extent of remediation at the LAFD Station #95, Allied Signal Aerospace, and Budget Rent-A-Car sites, it is unlikely that implementation of the Landside Automated People Mover or baggage tunnel would interfere substantially with the remediation efforts. However, in the event that construction would conflict with remediation activities underway at the time, implementation of Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), would ensure that remediation projects at LAX and in the acquisition areas would be completed to the extent possible and necessary before constructing Master Plan improvements or that alternate clean up methods would be implemented during construction to prevent contaminant migration, if necessary. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Due to the extent of the FHP contamination associated with Continental's Maintenance Facility, it is unlikely that the sites would be completely remediated by the time construction of the West Employee Parking Garage and New Maintenance Facilities was initiated. The remediation system for this site is an FHP removal system, consisting of extraction wells, small aboveground tanks in which removed groundwater and product are stored and periodically emptied, and pipes connecting the wells with the tank. Due to the extent of excavation needed for the proposed improvements, it is likely that part, or all, of the remediation systems in operation at this facility would have to be removed during construction. This would entail destruction of the extraction wells and removal of underground piping and aboveground tanks. Removing the active remediation system at the Continental Maintenance Facility for an extended period would interfere with existing clean up efforts.

## **4.23 Hazardous Materials**

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As discussed above, to prevent Master Plan-related construction from interfering with planned or ongoing remediation such that environmental contamination is exacerbated or permanent clean up of sites prevented, LAWA would implement Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D). Implementation of this commitment would ensure that remediation projects would be completed to the extent possible and necessary before constructing Master Plan improvements, or that alternate clean up methods would be implemented during construction to prevent contaminant migration, if necessary. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Therefore, impacts would be less than significant.

In comparison, the No Action/No Project Alternative would not involve a substantial amount of excavation or grading in areas of known contamination and remediation.

### **Exposure to Contamination**

As with the other build alternatives, in cases where remediation has not been planned or completed, or where contamination has not yet been discovered, contaminated soil and groundwater may be encountered during grading and excavation. Disturbance of contaminated soils and groundwater could pose a risk of exposure to construction workers or the environment. Alternative D improvements with the greatest potential for exposure include the CTA, Landside APM, GTC, Baggage Tunnel, West Employee Parking Garage, and New Maintenance Facilities as they would entail major excavation in areas of known contamination. In addition, it is possible that, during other construction activities for implementing Alternative D, previously unidentified soil and/or perched groundwater contamination would be encountered.

Exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. In addition, in recognition of the number of construction projects that would be undertaken concurrently, LAWA would implement Master Plan Commitment HM-2, Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D), to further reduce the potential adverse effects of excavating contaminated materials. Implementation of this commitment would ensure that contaminated materials encountered during construction are properly identified and remediated and disposed of in accordance with all applicable regulations, including those governing worker health and safety. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.

The potential impacts associated with the excavation of contaminated materials under Alternative D, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less overall construction.

### **Hazardous Building Materials**

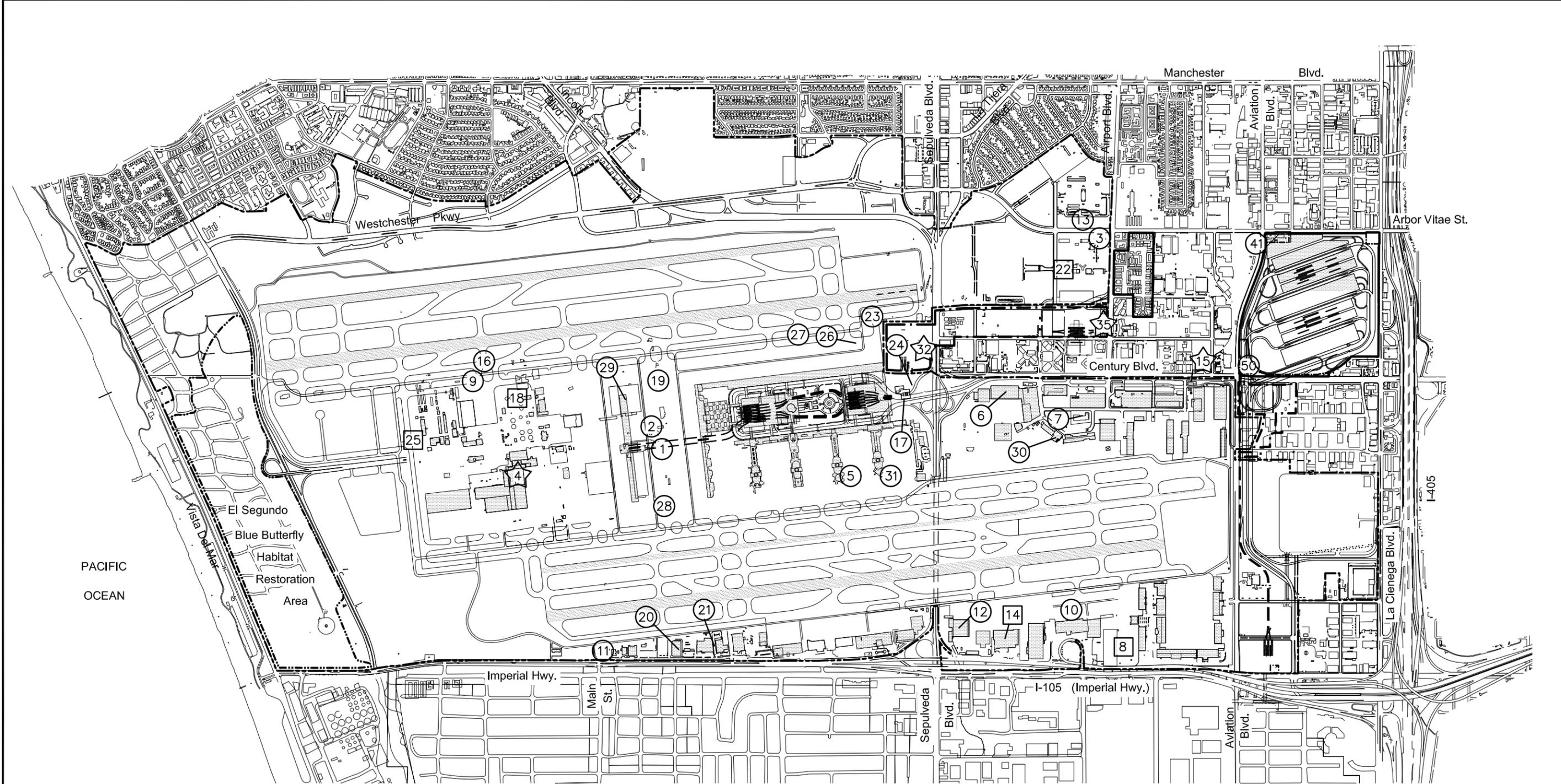
Demolition and renovation of existing structures at LAX and within the acquisition areas under Alternative D could disturb hazardous building materials and could pose a risk of exposure for construction workers. Other hazardous materials may also be encountered during demolition activities. Under Alternative D, electrical distribution station DS-111, which contains low levels of polychlorinated biphenyls (PCBs), may be relocated. By implementing the measures required by federal, state, and local laws and regulations, the potential impacts associated with hazardous building materials would be less than significant.

Potential impacts associated with hazardous building materials under Alternative D, while less than significant, would be greater than those under the No Action/No Project Alternative, which would result in less demolition and renovation.

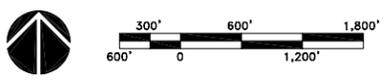
### **4.23.7 Cumulative Impacts**

This subsection addresses potential cumulative impacts related to hazardous materials associated with the No Action/No Project Alternative and Alternatives A, B, C, and D, in combination with other past, present, and probable future projects. The three main aspects of hazardous materials addressed in this analysis are the use, storage, transport, and disposal of hazardous materials and waste; hazardous materials contamination and remediation; and hazardous building materials. As discussed in subsection 4.23.3, *Affected Environment/Environmental Baseline*, hazardous materials are used and stored throughout the Master Plan boundaries. Most of the activities within the Master Plan boundaries that use hazardous materials also generate hazardous waste, which is temporarily accumulated on-site.

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NOTES:  
 NUMBERS CORRESPOND TO TABLE F4.23-1  
 SITES 1 THROUGH 31 ARE ON LAX PROPERTY.  
 SITES 32 THROUGH 51 ARE WITHIN THE ACQUISITION AREAS.



LEGEND	
	LAX Existing Property Line
	LAX Future Property Line
	Proposed Light Rail Transit
	El Segundo Blue Butterfly Preserve
	ANMP Acquisition Areas
	Automated People Mover
	Site with known soil and/or groundwater contamination
	Site with planned or on-going remediation
	Site where remediation may conflict with this Master Plan alternative

Source: Environmental Data Resources, Inc., 2002, Camp Dresser & McKee Inc., 1998.



Hazardous materials and hazardous wastes used and stored at LAX are transported to and from the airport via truck and pipeline. Hazardous waste generated at LAX and elsewhere within the Master Plan boundaries are removed by licensed waste haulers and transported for treatment, disposal, or recycling at off-site facilities. Areas of soil and groundwater contamination have been identified within the LAX Master Plan boundaries. In addition, many of the structures within the Master Plan boundaries may contain hazardous building materials such as ACMs, PCBs, and lead-based paints.

### 4.23.7.1 No Action/No Project Alternative

As discussed in subsection 4.23.6, *Environmental Consequences*, hazardous materials use/storage and hazardous waste generation within the Master Plan boundaries are anticipated to increase under the No Action/No Project Alternative compared to baseline conditions. The types of additional hazardous wastes generated under the No Action/No Project Alternative are expected to be similar to those now generated. An increase in hazardous materials use and hazardous waste generation at LAX could potentially increase the chances of a spill or release of these substances during handling or storage. Under the No Action/No Project Alternative, increases in the air and ground transport of hazardous materials could be expected. The No Action/No Project Alternative would also increase demand for hazardous waste disposal capacity. During construction activities associated with the No Action/No Project Alternative, contaminated soils could be unearthed, potentially exposing construction workers to hazardous materials. The No Action/No Project Alternative is not anticipated to interfere with planned or ongoing remediation such that environmental contamination is exacerbated or permanent clean up of sites prevented. Under the No Action/No Project Alternative, construction workers could potentially encounter and be exposed to hazardous building materials during building demolition.

Many aspects of hazardous materials use and hazardous waste generation are site-specific and not subject to cumulative effects, including exposure of construction workers to contaminated substances or hazardous building materials, air transport of hazardous substances, and interference with ongoing soil and groundwater remediation. Other hazardous materials impacts may be subject to cumulative effects. These impacts are discussed below.

Development of the Playa Vista project, as well as other proposed projects in the area, particularly commercial and industrial uses, in conjunction with the No Action/No Project Alternative, would result in increased use of hazardous materials such as solvents, waste oils, herbicides, and pesticides. This would increase the transportation of hazardous materials and hazardous wastes on public roadways. The likelihood of an accident involving hazardous materials or wastes would also increase, resulting in a greater potential for people and the environment to be exposed to these substances. Proper packaging and handling, coupled with employee training and emergency response, would reduce potential cumulative impacts associated with increased ground transport of hazardous materials/wastes.

Cumulative increases in the generation of hazardous wastes would also increase the burden on off-site treatment, recycling, and disposal facilities. Increases in hazardous waste generation would be met with either an increase in regional capacity, if necessary, or transport to more remote facilities.

### 4.23.7.2 Alternatives A, B, and C

As indicated in subsection 4.23.6, *Environmental Consequences*, similar to the No Action/No Project Alternative, hazardous materials use/storage and hazardous waste generation within the Master Plan boundaries would increase under Alternatives A, B, and C compared to baseline conditions. The types of additional hazardous wastes generated under Alternatives A, B, and C are expected to be similar to those now generated. An increase in hazardous materials use and hazardous waste generation at LAX could potentially increase the chances of a spill or release of these substances during handling or storage. Under Alternatives A, B, and C, increases in the air and ground transport of hazardous materials could be expected. These alternatives would also increase demand for hazardous waste disposal capacity. During the extensive construction activities associated with Alternatives A, B, and C, it is expected that contaminated soils would be unearthed, potentially exposing construction workers to hazardous materials. Under Alternatives A, B, and C, construction workers could potentially encounter and be exposed to hazardous building materials during building demolition. With the implementation of Master Plan commitments HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), and HM-2, Handling of Contaminated Materials Encountered During Construction

## **4.23 Hazardous Materials**

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(Alternatives A, B, C, and D), no significant impacts relative to hazardous materials would occur under Alternatives A, B, and C.

As discussed above under the No Action/No Project Alternative, exposure of construction workers to contaminated substances or hazardous building materials, air transport of hazardous substances, and interference with ongoing soil and groundwater remediation generation are site-specific and not subject to cumulative effects. Other hazardous materials impacts that may be subject to cumulative effects are discussed below.

Development of the Playa Vista project and other proposed projects in the area, in conjunction with Alternative A, B, or C, would result in potential impacts relative to the ground transport of hazardous materials and wastes and increased demand for hazardous waste treatment, recycling, and disposal. These impacts would be similar to those associated with the No Action/No Project Alternative, although the build alternatives would represent a slightly higher increment of the cumulative total. Proper packaging and handling of hazardous materials and wastes, coupled with employee training and emergency response, would reduce potential cumulative impacts of increased ground transport of hazardous materials/wastes to a level that is less than significant. With respect to the cumulative demand for treatment, recycling, and disposal, because sufficient capacity is expected to be available, the impact of cumulative increases in hazardous waste generation would be less than significant.

### **4.23.7.3 Alternative D - Enhanced Safety and Security Plan**

Hazardous materials use/storage and hazardous waste generation within the Master Plan boundaries would increase under Alternative D compared to baseline conditions, which could potentially increase the chances of a spill or release of these substances during handling or storage. Under Alternative D, increases in the air and ground transport of hazardous materials could be expected. This alternative would also increase demand for hazardous waste disposal capacity. During the construction activities associated with Alternative D, it is possible that contaminated soils would be unearthed, potentially exposing construction workers to hazardous materials. Under Alternative D, construction workers could potentially encounter and be exposed to hazardous building materials during building demolition. With the implementation of Master Plan Commitments HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), and HM-2, Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D), no significant impacts relative to hazardous materials would occur under Alternative D.

As discussed above, many aspects of hazardous materials use and hazardous waste generation are site-specific and not subject to cumulative effects, including exposure of construction workers to contaminated substances or hazardous building materials, air transport of hazardous substances, and interference with ongoing soil and groundwater remediation. Other hazardous materials impacts may be subject to cumulative effects. These impacts are discussed below.

Development of the Playa Vista project and other proposed projects in the area, in conjunction with Alternative D, would result in potential impacts relative to the ground transport of hazardous materials and wastes and increased demand for hazardous waste treatment, recycling, and disposal. Proper packaging and handling of hazardous materials and wastes, coupled with employee training and emergency response, would reduce potential cumulative impacts of increased ground transport of hazardous materials/wastes to a level that is less than significant. With respect to the cumulative demand for treatment, recycling, and disposal because sufficient capacity is expected to be available, the impact of cumulative increases in hazardous waste generation would be less than significant.

### **4.23.8 Mitigation Measures**

With the implementation of Master Plan Commitments HM-1, Ensure Continued Implementation of Existing Remediation Efforts (Alternatives A, B, C, and D), and HM-2, Handling of Contaminated Materials Encountered During Construction (Alternatives A, B, C, and D), Alternatives A, B, C, and D would not have any significant impacts relative to hazardous materials and no mitigation would be required.