
5. ENVIRONMENTAL ACTION PLAN

Through the course of formulating, designing, evaluating, and refining the Master Plan project, measures have been, and will be, incorporated to avoid or reduce impacts to the environment. Such measures are numerous and diverse, ranging from environmentally sensitive aspects of the project's physical design to policies and practices for mitigating impacts during project construction and operation. Collectively, these measures comprise an environmental action plan to minimize the overall impacts of the Master Plan project.

The nature and characteristics of the measures that serve to avoid or reduce impacts to the environment are described in Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*, relative to each environmental topic addressed therein. The numerous measures that constitute the environmental action plan for the Master Plan project are grouped into three categories - Project Design Features, Master Plan Commitments, and Proposed Mitigation Measures – as described below.

- ◆ *Project Design Features* are physical aspects of the Master Plan that, by virtue of their design, location or function, serve to avoid or reduce environmental impacts. Although the Draft EIS/EIR analysis focuses primarily on the impacts from the construction and operation of the physical features of the project, it is important to recognize that several of those key features were specifically intended and designed to avoid or reduce impacts that would otherwise occur.
- ◆ *Master Plan Commitments* are primarily activities, policies, and practices included in the proposed Master Plan that would serve to avoid or reduce environmental impacts. The Master Plan provides a comprehensive program to guide the future development and operation of LAX, of which commitments related to the preservation, protection, and enhancement of the environment are a key element. The rationale behind the formulation of Master Plan commitments is provided in the Introduction to Chapter 4.
- ◆ *Proposed Mitigation Measures* are additional means of avoiding or reducing environmental effects as determined in conjunction with the impacts analyses presented in Chapter 4. Proposed mitigation measures will be considered for inclusion with the Master Plan as part of the decision-making process.

The following presents the project design features, Master Plan commitments, and proposed mitigation measures that constitute the environmental action plan for the Master Plan project.

5.1 Project Design Features

The formulation and design of the Master Plan project included attention to environmental issues, with the objective being to avoid or reduce potential environmental impacts where possible. This objective was considered in the planning of the many improvements proposed as part of the Master Plan. The following highlights some of the more notable project design features that achieve the objective, realizing that several other aspects of the Master Plan also contribute to the objective, but to a lesser degree.

- ◆ *Airside Improvements* – A key aspect of the Master Plan relates to airfield and aircraft gate improvements that would both enhance existing and future operations of aircraft and improve provisions for passengers and visitors at the airport. The addition and/or modification of runways and improvements to taxiways would allow more efficient movement and operation of aircraft on the ground, with the direct environmental benefit of reducing air pollutant emissions from aircraft engines. Additionally, gate electrification would further reduce aircraft-related emissions. The nature and location of the runway and taxiway improvements, particularly under Alternatives A and C, are designed to direct and orient aircraft activity away from nearby residential areas and other sensitive uses, thereby reducing potential impacts related to aircraft noise and air pollutant emissions. These improvements take advantage of the airport's coastal location (whereby the higher noise levels associated with aircraft takeoffs can be oriented westward away from noise-sensitive receptors) while ensuring that sensitive coastal resources, such as habitat for the El Segundo blue butterfly, are protected by limiting runway improvements to areas east of the El Segundo Dunes. Similarly, major improvements to better accommodate passengers and visitors at the airport, such as development of the West Terminal Area, have been situated in the west central portion of the airfield, generally away from residential areas near the airport. By so doing, potential impacts related to construction and to operational noise, and air quality impacts at the terminal gates are reduced.

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- ◆ *Landside Improvements* – Another key aspect of the Master Plan relates to the extensive on-airport and off-airport transportation and circulation improvements that are proposed to reduce potential traffic impacts. With respect to on-airport improvements, each of the Master Plan alternatives would reduce curbside demand at the Central Terminal Area (CTA) by relocating a substantial portion of the air passenger demand from the CTA to the new West Terminal Area, thereby spreading on-airport traffic over a wider area. The West Terminal Area would be designed to accommodate over one half of the airport's traffic, with direct access provided via a non-stop ring road linking the airport to both of the airport vicinity freeways, the San Diego Freeway (I-405) and the Glen M. Anderson Freeway (I-105). Also, the Master Plan provides for substantial improvements in on-airport parking, with the planned parking capacity to exceed demand for both 2005 and 2015 by about 6,800 stalls and 3,800 stalls, respectively. These additional public parking spaces would serve to reduce the number of double trips, and associated traffic congestion and air pollutant emissions, generated by people forced to recirculate on the terminal service loop due to CTA congestion or by not being able to find parking spaces. The Master Plan proposes a single, consolidated on-airport rental car facility that would share a common shuttle bus service and would be fed by the on-airport Automated People Mover, thereby eliminating a great many congestion-causing shuttle trips.

Relative to the off-airport system, a number of major improvements are proposed around the airport area to reduce potential traffic impacts. Such improvements include: on the north, the LAX Expressway to provide direct freeway access to LAX for motorists traveling south on I-405 and for those exiting the airport heading north; from the east, I-105 would be extended so that it terminates directly onto the airport and the existing MTA Green Line would also be extended onto the airport; and, most importantly, direct freeway connections from the I-105 and I-405 would tie into a ring road that provides direct access to all parts of the airport, including the proposed new West Terminal Area. The design and operation of the ring road would reduce potential environmental impacts in several ways. It would provide an efficient access route for airport traffic, thereby diverting traffic from the surrounding surface streets, including roads within residential neighborhoods nearby. The location and configuration of the ring road would generally be confined to the edge of the airport property, thereby avoiding intrusion into, and disruption of, nearby communities. Similarly, the location and design of the LAX Expressway is intended to minimize impacts on existing communities by proposing alignments that generally follow other existing highways (i.e., I-405 for Alternatives A and C) or vacant right-of-way (i.e., MTA right of way for Alternative B). Both the LAX Expressway and the ring road feature the use of elevated roadway sections to reduce impacts on nearby areas.

5.2 Master Plan Commitments

The following provides a list of the Master Plan commitments that are identified, by environmental discipline, throughout Chapter 4 to avoid or reduce potential environmental impacts of the project.

Noise

- ◆ **N-1. Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program.**

All components of the current airport noise abatement program that pertain to aircraft noise will be maintained.

Land Use

- ◆ **LU-1. Incorporation of City of Los Angeles Ordinance No. 159,526 [Q] Zoning Conditions for LAX Northside into the Westchester Southside Project.**

To the maximum extent feasible, all [Q] Conditions (Qualifications of Approval) from City of Los Angeles Ordinance No. 159,526 that address the Northside project area will be incorporated by LAWA into the Zoning Code Amendment and LAX Master Plan Implementing Ordinance for the Westchester Southside project. Accepting that certain conditions may be updated, revised, or determined infeasible as a result of changes to the LAX Northside project, the final [Q] conditions for the Westchester Southside project will ensure that the level of environmental protection afforded by the full set of LAX Northside project [Q] conditions is maintained.

◆ **LU-2. Establishment of a Landscape Maintenance Program for Parcels Acquired Due to Airport Expansion.**

Land acquired and cleared for airport development will be fenced and maintained as a park or other green uses on a logical phasing basis until the properties are actually developed for airport purposes.

◆ **LU-3. Support City of Los Angeles Transportation Element Bicycle Plan.**

LAWA will support bicycle policies and plans, most notably those outlined in the City of Los Angeles Transportation Element Bicycle Plan and the General Plan Framework that delineate and promote bikeways in the vicinity of LAX. As a primary objective, LAWA will provide maximum feasible incorporation of bike paths and bike lanes into the proposed Draft LAX Master Plan circulation systems with a fundamental priority for ensuring safe and efficient bicycle and vehicular circulation. This commitment will include the provision of bicycle lanes along Imperial Highway between Sepulveda Boulevard and immediately west of Pershing Drive. In addition, bicycle access and parking facilities will be provided at transit centers, including the West Terminal Metro Rail Station, major parking lots, and Bus Transit Centers. Bicycle facilities such as lockers and showers will also be provided where feasible to promote employee bicycle use. Bike paths and lanes will be incorporated into Master Plan circulation improvements at the earliest possible stage of plan preparation.

◆ **LU-4. Neighborhood Compatibility Program.**

Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include:

- ▶ Provide and maintain landscaped buffers and setbacks along the northern and southern boundaries of the airport to screen views, ensure privacy, shield lighting and avoid other land use conflicts, particularly with residential uses.
- ▶ Locate airport uses and activities with the potential to adversely affect near-by land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible.
- ▶ Provide community outreach efforts to property owners and occupants through such measures as public notification and public meetings, when new development on airport property is in proximity to and could potentially affect nearby residential uses.

On-Airport Surface Transportation

◆ **ST-1. Adequate West Terminal Design.**

The West Terminal Area surface transportation system and curbside, commercial vehicle staging areas, and APM systems shall be designed to adequately accommodate all forecast vehicular activity through 2015.

◆ **ST-2. Non-Peak CTA Deliveries.**

Deliveries to the CTA terminal reconstruction projects shall be limited to non-peak traffic hours whenever possible.

◆ **ST-3. Construction Traffic Uses Upper Level.**

All construction traffic required to travel through the CTA shall use the upper level roadways, since they are typically less congested than lower level roads. Four curb areas shall be designated for construction deliveries. Each curb area shall be a minimum length of one hundred feet, to allow terminal access for construction vehicles. Two of the curb areas shall be located on World Way North and the remaining two shall be located on World Way South. One of the curb areas shall be in close proximity to Tom Bradley International Terminal (TBIT).

◆ **ST-4. Limited Short-Term Lane Closures.**

When construction of the new ramps at the Century Boulevard/Sepulveda Boulevard interchange or the APM elevated structures require short-term lane closures, the lane closures shall be limited to twelve consecutive hours at a time and shall be scheduled for the non-summer and non-holiday periods.

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◆ **ST-5. Additional Lot C Shuttles.**

Additional shuttles, as needed, shall be added between the remote public parking lot C and the CTA to accommodate for the closure of parking areas when the CTA Parking Expansion project is being constructed in 2002.

◆ **ST-6. Removal of Spoil Material.**

The spoil material that is removed from the APM and Commercial Vehicle Road (CVR) tunneling projects in the CTA vicinity shall be stockpiled and subsequently removed from a point west of the CTA to minimize interruptions in the CTA curb operations.

Off-Airport Surface Transportation

◆ **ST-7. Construction Delivery Permits.**

Construction deliveries requiring lane closures will be required to obtain delivery permits 30 days prior to delivery, allowing traffic maintenance plans to be modified and implemented.

◆ **ST-8. Designated Truck Routes.**

For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every effort will be made for routes to avoid residential frontages and may include, but will not be limited to:

- ▶ Florence Avenue (I-405 to Aviation Boulevard)
- ▶ Manchester Avenue, east of Aviation Boulevard
- ▶ Aviation Boulevard, south of Manchester Avenue and north of Imperial Highway
- ▶ Arbor Vitae (from I-405 to Sepulveda Boulevard)
- ▶ Westchester Parkway
- ▶ Imperial Highway, east of Sepulveda Boulevard
- ▶ La Cienega Boulevard, south of Manchester Avenue and south of Imperial Highway
- ▶ Airport Boulevard, south of Arbor Vitae
- ▶ Sepulveda Boulevard, south La Tijera Boulevard and north of Imperial Highway
- ▶ I-405
- ▶ I-105 east of Sepulveda Boulevard
- ▶ Pershing Drive south of Westchester, but not connecting to Imperial Highway

◆ **ST-9. Stockpile Locations.**

Stockpile locations will be confined to the eastern area of the airport vicinity. Multiple stockpile locations will be provided.

◆ **ST-10. Designated Truck Delivery Hours.**

Truck deliveries will be concentrated during night hours, and will avoid the peak periods (7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.).

◆ **ST-11. Construction Employee Parking Locations.**

Employee parking will be provided along the east end of the airport, to the extent possible. Shuttle buses will transport employees to construction sites. In addition, remote parking locations (1 to 50 miles away) will be established for construction employees with shuttle service to the airport. An emergency return system will be established for employees that must to leave early.

◆ **ST-12. Construction Employee Shift Hours.**

Shift hours will be established that do not coincide with the heaviest commuter traffic periods (7:00 to 9:00 a.m., 4:30 to 6:30 p.m.). Work periods will be extended to include weekends and multiple work shifts, to the extent possible and necessary.

◆ **ST-13. Separation of Construction Traffic.**

Construction traffic will be separated from regular “airport” traffic by various means including keeping existing roads that would be replaced and detour routes (where appropriate) in service as haul routes even after the parallel new roadway is open to traffic.

◆ **ST-14. Designated Haul Routes.**

Every effort will be made to ensure that haul routes are located away from sensitive noise receptors.

◆ **ST-15. Maintenance of Haul Routes.**

Haul routes will be periodically maintained and will comply with LADOT, City Planning, and Building and Safety requirements for maintenance. Minor striping, lane configurations, curb return modifications, and signal timing will be provided, as needed.

◆ **ST-16. Detour Plan.**

A complete detour plan will be developed to designate routes, variable message sign locations, and communication methods with airport passengers, delivery trucks, etc. Temporary detour roads will be of the same capacity and design speeds as the existing facility. Detour routes will be periodically maintained.

◆ **ST-17. Closure Restrictions of Existing Roadways.**

Other than very short time periods during nighttime construction, no existing roadways will be closed until they are no longer needed for regular traffic or construction traffic, unless a temporary detour route is available to serve the same function. This will recognize that there are three functions taking place concurrently: (1) airport traffic, (2) construction haul routes, and (3) construction of new facilities.

Relocation of Residences and Businesses

◆ **RBR-1. Residential and Business Relocation Program.**

To address the acquisition of properties and relocation of businesses and residents associated with the proposed Master Plan, LAWA will prepare a Residential and Business Relocation Plan and expand its current relocation program in compliance with the Uniform Act, state and local regulations, and FAA Advisory Circular 150/5100-17. Consistent with and building on the existing program, LAWA would achieve the following objectives:

- ▶ Fully inform eligible project-area residential occupants and business owners of the nature of and procedures for obtaining relocation assistance and benefits.
- ▶ Determine the needs of each residential relocatee and business owner.
- ▶ Provide an adequate number of referrals to comparable, decent, safe, and sanitary housing units within a reasonable time prior to relocation. No residential occupant would be required to move until comparable decent, safe, and sanitary housing is made available.
- ▶ Provide at least 90 days advance written notice to vacate, as required by law. The notice period may be extended according to the needs of the affected relocatees.
- ▶ Provide current and continuously updated information concerning replacement housing and business choices and opportunities.
- ▶ Ensure that the relocation process does not result in different or separate treatment because of race, religion, national origin, gender, marital status, or other arbitrary circumstances.
- ▶ Ensure that the unique needs of minority and low-income persons and businesses are addressed, including the provision of assistance and materials in Spanish and other languages as necessary.
- ▶ Supply information concerning federal, state, city, and other governmental programs providing assistance to displaced persons or businesses.
- ▶ Assist each eligible person or business in the completion of all applications and claims for payment of benefits.
- ▶ Make relocation payments in accordance with Federal Relocation Regulations, including the provisions of Last Resort Housing, where applicable.

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- ▶ Inform all affected occupants of LAWA's policies with regard to eviction and property management.
- ▶ Establish and maintain a formal grievance procedure for use by relocatees seeking administrative review of LAWA decisions with respect to relocation assistance.

Although it is expected that comparable replacement housing resources are available, LAWA will take all reasonable steps to make such resources available, including but not limited to the following:

- ▶ Provide vacated project structures to agencies that could relocate the structures to new sites and make them available for program-affected residents.
- ▶ Provide funding for possible construction of replacement housing.
- ▶ Provide funding for rehabilitation of housing units being sold or rented to program-affected residents.
- ▶ Consider other innovative actions to ensure the availability of replacement housing.

In addition to the above services, distinct business assistance services would include but not be limited to the following:

- ▶ LAWA will implement a business relocation assistance program to insure prompt and equitable relocation and re-establishment of businesses displaced as a result of the proposed Master Plan. The business relocation assistance program will include: 1) a determination of the relocation needs and preferences of each business to be displaced; 2) the maintenance of listings and contacts with commercial real estate brokers, commercial lenders, and government economic development agencies to assist displaced businesses in locating suitable replacement sites; 3) the provision to displaced businesses of information on programs administered by the Small Business Administration and other federal and state programs offering assistance to displaced persons; 4) the provision of special assistance to those who wish to remain close to their current sites or close to an airport in finding such sites, including sites on the airport such as Westchester Southside, or other airport owned properties or developments; and 5) the provision of special assistance to address the specific needs of minority-owned businesses.
- ▶ LAWA will coordinate with the Cities of Inglewood, Hawthorne, and El Segundo to locate properties within their jurisdictions suitable for businesses displaced by the acquisition program.
- ▶ LAWA will investigate and consider the use of the Aircraft Noise Mitigation Program to redevelop noise impacted residential areas into commercial areas suitable for businesses displaced by the acquisition program.
- ▶ LAWA will provide opportunities for airfreight, flight kitchens, and other airport-related uses displaced by the acquisition program to relocate onto airport property, to the maximum extent practicable.
- ▶ LAWA will, to the maximum practicable extent, develop its property in Manchester Square and the Westchester Southside so as to provide relocation opportunities for businesses displaced by the acquisition program.

Environmental Justice

The Environmental Justice Task Force will work with affected communities and LAWA to explore appropriate formulation of specific Master Plan Commitments related to Environmental Justice.

Air Quality

◆ AQ-1. Use of Low-NO_x Construction Equipment.

LAWA will require Master Plan construction contractors to use low-NO_x construction equipment. Low-NO_x construction equipment are defined as those equipment meeting an upper emission limit of 2.5 grams of NO_x per brake horsepower (g/bhp), as further defined in the Diesel Statement of Principles agreement signed between USEPA, CARB, and major construction equipment manufacturers (Caterpillar, Case, etc.) and measures M9 and M10 in the 1997 AQMP. The Master Plan low- NO_x construction equipment commitment will require that low- NO_x construction equipment be phased in from 2001 through 2005 by 20 percent increments per year with 100 percent compliance by 2005. The intent of this requirement is to minimize ambient air quality impacts (NO₂ and O₃) that may occur during the construction phase of the Master Plan. This commitment will be implemented as a

requirement in the construction bid package documents provided to contractors prior to awarding the construction contracts. Contractors will be required to keep and maintain low-NO_x certification records for all affected equipment, which will be inspected periodically by LAWA to ensure compliance with this commitment.

Hydrology and Water Quality

◆ HWQ-1. Develop Detailed Drainage Plan.

Once a Master Plan alternative is selected, and in conjunction with its preliminary design, LAWA will develop a detailed drainage plan of the area within the boundaries of the alternative. The purpose of the drainage plan will be to assess site-specific drainage flows at a design level of detail in order to select the most appropriate mitigation measures, from those identified in this EIS/EIR.

LAWA will develop this drainage plan and evaluate drainage capacity using the Peak Rate Method specified in Part G - Storm Drain Design of the City of Los Angeles' *Bureau of Engineering Manual*. In areas within the boundary of the selected alternative where the surface water runoff rates are found to exceed the capacity of the storm water conveyance infrastructure with the potential to cause flooding, LAWA will take measures to either reduce peak flow rates or increase the structure's capacity. These drainage facilities will be designed to ensure that they adequately convey storm water runoff and prevent flooding by adhering to the procedures set forth by the Peak Rate Method. Methods to reduce the peak flow of surface water runoff could include:

- ▶ Decreasing impervious area by removing unnecessary pavement or utilizing porous concrete or modular pavement
- ▶ Building storm water detention structures
- ▶ Diverting runoff to pervious areas (reducing directly-connected pervious areas)
- ▶ Diverting runoff to outfalls with additional capacity (reducing the total drainage area for an individual outfall)
- ▶ Redirecting storm water flows to increase the time of concentration

Measures to increase drainage capacity could include:

- ▶ Increasing the size and slope (capacity) of storm water conveyance structures (pipes, culverts, channels, etc.)
- ▶ Increasing the number of storm water conveyance structures and or/outfalls

LAWA will also evaluate the effect of the selected Master Plan alternative on surface water quality using the LARWQCB's SUSMP. The SUSMP addresses water quality and drainage issues by specifying source control, structural, and treatment control BMPs with the objective of reducing the discharge of pollutants from the storm water conveyance system to the maximum extent practicable. LAWA will comply with these provisions by designing the storm water system to meet the requirements of the SUSMP through incorporation of both structural and treatment control BMPs. These BMPs would be applied to both existing and future sources with the goal of achieving no net increase in loadings of pollutants of concern. The following list includes some of the BMPs that could be employed to infiltrate or treat storm water runoff and control peak flow rates:

- ▶ Vegetated swales and strips
- ▶ Oil/Water Separators
- ▶ Clarifiers
- ▶ Media Filtration
- ▶ Catch Basins Inserts and Screens
- ▶ Continuous Flow Deflective Systems
- ▶ Bioretention and Infiltration
- ▶ Detention Basins
- ▶ Manufactured treatment units

The overall result of Master Plan Commitment HWQ-1 will be a drainage infrastructure that provides adequate drainage capacity to prevent flooding and control peak flow discharges and that

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incorporates BMPs to minimize the effect of airport operations on surface water quality and to prevent a net increase in pollutant loads in surface water resulting from the selected Master Plan alternative.

Historic/Architectural and Archaeological/Cultural Resources

◆ HR-1. Preservation of Historic Resources.

In implementing the LAX Master Plan and conducting on going activities associated with operation of the airport, LAWA will support the preservation of identified significant historic architectural resources through careful review of design and development adjacent to those resources and by undertaking any modifications to the building in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Additionally, where sound insulation is proposed for identified significant historic architectural resources under the Aircraft Noise Mitigation Program, LAWA will ensure that methods are developed with the approval of a qualified architectural historian or historic architect, who meets the Secretary of the Interior's Professional Qualifications Standards, in compliance with the Secretary of the Interior's Standards for Rehabilitation.

Energy Supply

◆ E-1. Energy Conservation and Efficiency Program.

LAWA will seek to continually improve the energy efficiency of building design and layouts during the implementation of the LAX Master Plan. Title 24, Part 6, Article 2 of the California Administrative Code establishes maximum energy consumption levels for heating and cooling of new buildings to assure that energy conservation is incorporated into the design of new buildings. LAWA will design new facilities to meet or exceed the prescriptive standards required under Title 24. Some of the energy conservation measures that LAWA may incorporate into the design of new buildings and airports facilities may include the use of energy-efficient building materials, energy-saving lighting systems, energy-efficient air-conditioning systems, energy-efficient water-heating systems, and designed-in access for alternative means of surface transportation, including the Green Line and the APM. These energy conservation measures may be further improved upon as energy-saving design approaches and technologies develop.

◆ E-2. Coordination with Utility Providers.

LAWA will implement Master Plan activities in coordination with local utility providers. Utility providers will provide input on the layout of utilities at LAX to assure that LAX and the surrounding region receive both safe and uninterrupted service. When service by existing utility lines could be affected by airport design features, LAWA will work with the utility to identify alternative means providing equivalent or superior post-construction utility service.

◆ PU-1. Develop a Utility Relocation Program.

LAWA will develop and implement a utilities relocation program to minimize interference with existing utilities associated with LAX Master Plan facility construction. Prior to initiating construction of a Master Plan component, LAWA will prepare a construction evaluation to determine if the proposed construction will interfere with existing utility location or operation. LAWA will determine utility relocation needs and, for sites on LAX property, LAWA will develop a plan for relocating existing utilities as necessary before, during, and after construction of LAX Master Plan features. LAWA will implement the utility relocation program during construction of LAX Master Plan improvements.

Light Emissions

◆ LI-1. Ring Road Landscaping.

Under Alternative B, prior to approval of final plans for the ring road and the roadway proposed to connect Airport Boulevard to Bellanca Avenue, the alignments of these roadways will be modified by LAWA to provide a minimum 20-foot landscaped setback between residential properties on Morely Street. Said plans will also locate and direct lighting to avoid direct glare or light spillover effects on the residential properties. Baseline measurements of ambient lighting will be made prior to construction of the ring road. The baseline data will be used to estimate potential change in ambient lighting conditions with development of the ring road. Plantings within the setback shall include dense evergreen trees and other vegetation selected and located so that roadway lighting is sufficiently screened to ensure that lighting intensity does not increase by more than 2 footcandles over existing

levels at the property lines of affected residential uses. Aesthetic enhancement of views along the ring road will also be achieved.

◆ **LI-2. Use of Non-Glare Generating Building Materials.**

Under Alternatives A, B, and C, prior to approval of final plans LAWA will ensure that proposed LAX facilities will be constructed of non-reflective materials and will not contain undifferentiated expanses of glass.

◆ **LI-3. Lighting Controls.**

Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spillover.

Solid Waste

◆ **SW-1. Implement an Enhanced Recycling Program.**

LAWA will implement a more aggressive recycling program, based on successful programs at other airports and similar facilities. Features of the enhanced recycling program will include: expansion of the terminal recycling program to all terminals and the new West Terminals Area, development of a recycling program at Westchester Southside, lease provisions requiring that tenants meet specified diversion goals, and preference for recycled materials during procurement.

◆ **SW-2. Requirements for the Use of Recycled Materials during Construction.**

LAWA will require that contractors use a specified minimum percentage of recycled materials during construction of LAX Master Plan improvements. The percentage of recycled materials required will be specified in the construction bid documents. Recycled materials may include, but are not limited to, asphalt, drywall, steel, aluminum, ceramic tile, cellulose insulation, and composite engineered wood products. The use of recycled materials in LAX Master Plan construction will help to reduce the project's reliance upon virgin materials and support the recycled materials market, decreasing the quantity of solid waste requiring disposal.

◆ **SW-3. Requirements for the Recycling of Construction and Demolition Waste.**

LAWA will require that contractors recycle a specified minimum percentage of waste materials generated during demolition and construction. The percentage of waste materials required to be recycled will be specified in the construction bid documents. Waste materials to be recycled may include, but are not limited to, asphalt, concrete, drywall, steel, aluminum, ceramic tile, and architectural details.

Construction Impacts

◆ **C-1. Establishment of a Ground Transportation/Construction Coordination Office.**

Establish this office for the life of the construction projects to coordinate deliveries, monitor traffic conditions, advise motorists and those making deliveries about detours and congested areas, and monitor and enforce delivery times and routes. LAWA will periodically analyze traffic conditions on designated routes during construction to see whether there is a need to improve conditions through signage and other means. This office will undertake a variety of duties, including but not limited to:

- ▶ Coordinating with police and fire regarding maintenance of emergency access and response times, and coordinating with other agencies, such as Caltrans and Los Angeles Department of Transportation (LADOT), whose own roadway improvement or construction activities could cause cumulative effects on traffic.
- ▶ Monitoring deliveries and coordinating as needed.
- ▶ Monitoring congestion and making adjustments to delivery and detour routes, as needed.
- ▶ Providing a hotline for complaints and for providing the public with information on construction activities and scheduling.
- ▶ Providing a construction relations officer to act as liaison with neighbors, residents, affected agencies, and school districts concerning construction activities.

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- ▶ Providing a public notification system to advise adjacent communities, affected agencies, school districts (including the Transportation Branch of LAUSD), and others in advance of roadway changes or other major activities.

◆ C-2. Construction Personnel Airport Orientation.

All construction personnel will attend an airport orientation that includes where to park, where staging areas are located, construction policies, etc.

Design, Art and Architecture Application/Aesthetics

◆ DA-1. Provide and Maintain Airport Buffer Areas.

Landscaped buffer areas will be provided and maintained along the northerly and southerly boundaries of the airport. These areas will include a greenbelt of trees and landscaping to screen views of airport facilities from adjacent residential uses and other view-sensitive uses as appropriate. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

◆ DA-2. Update and Integrate Design Plans and Guidelines.

The following plans and guidelines will be individually updated or integrated into a comprehensive set of design-related guidelines and plans: LAX Street Frontage and Landscape Development Plan (June 1994), LAX Air Cargo Facilities Design Guidelines (April 1998), LAX Northside Design Plan and Development Guidelines (1989), and relevant Qualifying ([Q]) conditions addressing heights, setbacks, and landscaping from Ordinance 159,526, as further described in Technical Report 11, *Design Art and Architecture Application/Aesthetics Technical Report*. The update will serve as a basis for reviewing and conditioning future public and private development projects at LAX. The update will incorporate key [Q] conditions and provisions in current plans with an equivalent or greater level of compatibility and visual quality supported between LAX and adjacent land uses.

◆ DA-3. Undergrounding of Utility Lines.

In conjunction with the extension of the Century Freeway and other roadway/right-of-way improvement projects, LAWA will pursue opportunities to place existing overhead utility lines underground wherever feasible and appropriate.

Hazardous Materials

◆ HM-1. Ensure Continued Implementation of Existing Remediation Efforts.

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 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 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.

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, 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.

◆ **HM-2. Handling of Contaminated Materials Encountered During Construction.**

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. 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.

Water Use

◆ **W-1. Maximize Use of Reclaimed Water.**

LAWA will maximize the use of reclaimed water in Master Plan-related facilities and landscaping. The intent of this commitment is to maximize the use of reclaimed water as an offset for potable water use in order to minimize the potential for increased water use resulting from implementation of the LAX Master Plan, and facilitate achievement of the City of Los Angeles' goal of increased beneficial use of its reclaimed water resources. This commitment will be implemented by various means, such as installation and use of reclaimed water distribution piping for landscape irrigation; use of appropriate construction material in the new CUP to allow for reclaimed water use for cooling; and double plumbing of terminals to allow use of reclaimed water for toilet flushing, where practical.

◆ **W-2. Enhance Existing Water Conservation Program.**

LAWA will enhance the existing *Street Frontage and Landscape Plan* to ensure the ongoing use of water conservation practices at LAX facilities. The intent of this program will be to minimize the potential for increased water use due to implementation of the LAX Master Plan and act in accordance with regional efforts to ensure adequate water supplies for the future. Features of the enhanced conservation program will include identification of current water conservation practices and an assessment of their effectiveness; identification of alternate future conservation practices; continuation of the practice of retrofitting and installing new low-flow toilets and other water-efficient fixtures in all LAX buildings, as remodeling takes place or new construction occurs; use of Best Management Practices for maintenance; use of water efficient vegetation for landscaping, where possible; and continuation of the use of fixed automatic irrigation for landscaping.

◆ **PU-1. Develop a Utility Relocation Program.**

LAWA will develop and implement a utilities relocation program to minimize interference with existing utilities associated with LAX Master Plan facility construction. Prior to initiating construction of a Master Plan component, LAWA will prepare a construction evaluation to determine if the proposed construction will interfere with existing utility location or operation. LAWA will determine utility relocation needs and, for sites on LAX property, LAWA will develop a plan for relocating existing utilities as necessary before, during, and after construction of LAX Master Plan features. LAWA will implement the utility relocation program during construction of LAX Master Plan improvements.

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Wastewater

◆ **PU-1. Develop a Utility Relocation Program.**

LAWA will develop and implement a utilities relocation program to minimize interference with existing utilities associated with LAX Master Plan facility construction. Prior to initiating construction of a Master Plan component, LAWA will prepare a construction evaluation to determine if the proposed construction will interfere with existing utility location or operation. LAWA will determine utility relocation needs and, for sites on LAX property, LAWA will develop a plan for relocating existing utilities as necessary before, during, and after construction of LAX Master Plan features. LAWA will implement the utility relocation program during construction of LAX Master Plan improvements.

Fire Protection

◆ **FP-1. LAFD Design Recommendations.**

During the design phase prior to initiating construction of a Master Plan component, LAWA will prepare plans that contain the design features applicable to that component, as recommended by LAFD and listed below:

- ▶ **Emergency Access.** During Plot Plan development and the construction phase, LAWA will coordinate with LAFD to ensure that access points for off-airport LAFD personnel and apparatus are maintained and strategically located to support timely access.
- ▶ **Fire Flow Requirements.** Proposed Master Plan development will include improvements to ensure 9,000 gallons per minute of fire flow from six fire hydrants flowing simultaneously. A minimum residual water pressure of 20 pounds per square inch will remain in the water system while 9,000 gallons per minute of water is flowing.
- ▶ **Fire Hydrants.** Adequate off-site public and on-site private fire hydrants may be required, based on determination by the LAFD upon review of proposed plot plans.
- ▶ **Street Dimensions.** New development will conform to the standard street dimensions shown on the City of Los Angeles Department of Public Works Standard Plan D-22549.
- ▶ **Road Turns.** Standard cut-corners will be used on all proposed road turns.
- ▶ **Private Roadway Access.** Private roadways that will be used for general access and fire lanes shall have at least 20 feet of vertical access.
- ▶ **Dead-End Streets.** Where fire lanes or access roads are provided, dead-end streets will terminate in a cul-de-sac or other approved turning area. No fire lane shall be greater than 700 feet in length unless secondary access is provided.
- ▶ **Fire Lanes.** All new fire lanes will be at least 20 feet wide. Where a fire lane must accommodate a LAFD aerial ladder apparatus or where a fire hydrant is installed, the fire lane will be at least 28 feet wide.
- ▶ **Building Setbacks.** New buildings will be constructed greater than 150 feet from the edge of the roadways of improved streets, access roads, or designated fire lanes.
- ▶ **Building Heights.** New buildings exceeding 28 feet in height may be required to provide additional LAFD access.
- ▶ **Aircraft Fire Protection Systems.** Effective fire protection systems will be provided to protect the areas beneath the wings and fuselage portions of large aircraft. This may be accomplished by incorporating foam-water deluge sprinkler systems with foam-producing and oscillating nozzle (per NFPA 409, aircraft hangars for design criteria).

◆ **PS-1. Fire and Police Facility.**

Prior to any demolition, construction, or circulation changes that would affect LAFD Fire Stations 51, 80, and 95, or on-airport police facilities, a Relocation Plan will be developed by LAWA through a cooperative process involving LAFD, LAWAPB, the LAPD LAX Detail, and airport planners. The performance standards for the plan will ensure maintenance of required response times, response distances, fire flows, and a transition to new facilities such that fire and law enforcement services at LAX will not be significantly degraded. The plan will also address future facility needs, including details regarding space requirements, siting, and design.

Law Enforcement

◆ **LE-1. Routine Evaluations of Manpower and Equipment Needs.**

LAWA will assure that the LAWAPB and the LAPD LAX Detail continue to routinely evaluate and provide additional officers, supporting administrative staff, and equipment, to keep pace with forecasted increases in activity and development at LAX in order to maintain a high level of law enforcement services. This will be achieved through LAWA notification to LAWAPB and LAPD regarding pending development and construction and through LAWA review of status reports on law enforcement services at LAX.

◆ **LE-2. Plan Review.**

During the design phase of terminal and cargo facilities and other major airport developments, the LAPD, LAWAPB, and other law enforcement agencies shall be consulted to review plans so that environmental contributors to criminal activity, such as poorly-lit areas and unsafe design, are reduced.

◆ **PS-1. Fire and Police Facility.**

Prior to any demolition, construction, or circulation changes that would affect LAFD Fire Stations 51, 80, and 95, or on-airport police facilities, a Relocation Plan will be developed by LAWA through a cooperative process involving LAFD, LAWAPB, the LAPD LAX Detail, and airport planners. The performance standards for the plan will ensure maintenance of required response times, response distances, fire flows, and a transition to new facilities such that fire and law enforcement services at LAX will not be significantly degraded. The plan will also address future facility needs, including details regarding space requirements, siting, and design.

5.3 Mitigation Measures

The following provides a list of the proposed mitigation measures recommended in Chapter 4 to avoid or reduce any significant impacts that were identified in the impact analysis for each environmental discipline. These mitigation measures pertain to all three build alternatives, unless otherwise noted. Additional mitigation measures pertaining to the LAX Expressway alignments and State Route 1 improvements associated with alternatives A and C are provided in Appendix K, *Supplemental Environmental Evaluation for LAX Expressway and State Route 1 Improvements*.

Noise

◆ **MM-N-1. Reserve Runway 06L/24R for Arrival Traffic Only (Alternative A).**

Reserve Runway 06L/24R for arrival traffic only, during normal operating conditions, after construction and commissioning for use.

◆ **MM-N-2. Runway 25L for Arrival Traffic.**

Reserve Runway 25L for arrival traffic only after construction.

◆ **MM-N-3. Runway 7R for Departure Traffic.**

Reserve Runway 7R for departure traffic only after construction.

◆ **MM-N-4. Update the Aircraft Noise Abatement Program Elements as Applicable to Adapt to the Future Airfield Configuration.**

◆ **MM-N-5. Noise Control Devices.**

Noise control devices shall be used, such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation changes and existing buildings can shield construction noise.

◆ **MM-N-6. Construction Staging.**

Construction operations shall be staged as far from noise sensitive uses as possible.

◆ **MM-N-7. Program Maintenance.**

All sound reducing devices and restrictions shall be maintained throughout the construction period.

◆ **MM-N-8. Equipment Replacement.**

Noisy equipment shall be replaced with quieter equipment (for example, rubber tired equipment rather than track equipment) whenever possible.

◆ **MM-N-9. Construction Scheduling.**

The timing and/or sequence of the noisiest construction operations shall avoid sensitive times of the day.

Land Use

◆ **MM-LU-1. Implement Revised Aircraft Noise Mitigation Program.**

LAWA shall expand and revise the existing Aircraft Noise Mitigation Program (ANMP) in coordination with affected neighboring jurisdictions, the State, and the FAA. The expanded Program shall mitigate land uses that would be rendered incompatible by noise impacts associated with implementation of the Draft LAX Master Plan. LAWA shall accelerate the ANMP's timetable for achieving full compatibility of all land uses within the existing noise impact area pursuant to the requirements of the California Airport Noise Standards (California Code of Regulations, Title 21, Subchapter 6). The relevant performance standard to achieve compatibility for land uses that are incompatible due to aircraft noise (i.e., residences, schools, hospitals and churches) is adequate acoustic performance (sound insulation) to ensure an interior CNEL of 45 CNEL or less. As an alternative to sound insulation, incompatible property may also achieve compatibility if the incompatible use is converted to a noise-compatible use.

LAWA shall revise the ANMP to incorporate new, or expand existing measures, including, but not necessarily be limited to, the following:

- ▶ Continued implementation of successful programs to convert existing incompatible land uses to compatible land uses through sound insulation of structures and the acquisition and conversion of incompatible land use to compatible land use.
- ▶ Ongoing monitoring and provision of annual updates in support of the requirements of the 1993 and 1998 LAX Noise Variances pursuant to the California Airport Noise Standards, with the updates made available to affected local jurisdictions, the Airport Land Use Commission of Los Angeles County, and other interested parties.
- ▶ Continued pre- and post-insulation noise monitoring to ensure achievement of interior noise levels at or below 45 CNEL.
- ▶ Accelerated rate of land use mitigation to eliminate noise impact areas in the most timely and efficient manner possible.

A wide variety of measures may be implemented to achieve this objective, including, but not limited to, some or all of the following:

- ▶ Increased annual funding by LAWA for land use mitigation;
- ▶ Provision by LAWA of additional technical assistance to local jurisdictions to support more rapid and efficient implementation of their land use mitigation programs;
- ▶ Consolidation of components of the ANMP under one agency;
- ▶ Reduction or elimination to the extent feasible, of structural and building code compliance constraints to mitigation of sub-standard housing.
- ▶ Revised criteria and procedures for selection and prioritization of properties to be sound insulated or acquired in consideration of the following:
 - ▶ Insulation or acquisition of properties within the highest CNEL measurement zone;
 - ▶ Acceleration of the fulfillment of existing commitments to owners wishing to participate within the current ANMP boundaries prior to proceeding with newly eligible properties;
 - ▶ Insulation or acquisition of incompatible properties with high concentrations of residents or other noise-sensitive occupants such as those housed in schools or hospitals.
 - ▶ Amended ANMP to include libraries as noise-sensitive uses that are eligible for aircraft noise mitigation.
- ▶ Following the satisfaction of its commitments under the current Program, expanded boundaries of the ANMP to include those residential and noise-sensitive uses currently located outside the current ANMP 65 CNEL noise contours (1) that would be exposed to 65 CNEL noise levels as a result of this alternative, and (2) that would be exposed to noise in excess of levels deemed to be significant under CEQA. As presented in Table 4.2-29, Alternative A Newly Exposed Residential and Noise-Sensitive Uses Outside of 1996 ANMP Contours, these uses include a total of 50 residential units, 100 residents, and no noise-sensitive uses for Alternative A 2005; and 1,220 residential units, 3,110 residents, and 9 noise-sensitive uses for 2015, located in the cities of Los Angeles and Inglewood. These properties are listed in Technical Report 1, *Land Use Technical Report*. These properties are also shown in Figure 4.2-24, Alternative A 2005 vs. ANMP Areas Newly Exposed, and Figure 4.2-25, Alternative A 2015 vs. ANMP Areas Newly Exposed.
- ▶ Adopted and implemented practices to monitor development in surrounding communities to help prevent construction of new land uses that would be incompatible with airport operations.
- ▶ Evaluated potential costs and benefits of new noise-mitigation flight procedures and operational rules and regulations, pursuant to FAR Parts 150 and 161, and in cooperation with the FAA, airport users and surrounding communities.

Under Alternative B, MM-LU-1 would be implemented based on the following residential and noise-sensitive parcels that would be located outside the current ANMP boundary area as identified under Alternative B:

As presented in Table 4.2-30, Alternative B Newly Exposed Residential and Noise-Sensitive Uses Outside of 1996 ANMP Contours, a total of 100 residential units, 190 residents, and no noise-sensitive parcels for Alternative B 2005; and 2,770 residential units, 8,720 residents, and 15 noise-sensitive parcels for 2015 are located in the Cities of Los Angeles and Inglewood and Los Angeles County, outside the

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current ANMP boundaries. These properties are listed in Technical Report 1, *Land Use Technical Report*. These properties are also shown in figure 4.2-26, Alternative B 2005 vs. ANMP – Areas Newly Exposed, and Figure 4.2-27, Alternative B 2015 vs. ANMP Areas Newly Exposed.

Under Alternative C, MM-LU-1 would be implemented based on the following residential and noise-sensitive parcels that would be located outside the current ANMP boundary area as identified under Alternative C:

As presented in Table 4.2-31, Alternative C Newly Exposed Residential and Noise-Sensitive Uses Outside of 1996 ANMP Contours, a total of 90 residential units, 170 residents, and no noise-sensitive parcels for Alternative C 2005; and 170 units, 350 residents, and no noise-sensitive parcels for 2015 are located in the City of Los Angeles, outside the current ANMP boundaries. These properties are listed in Technical Report 1, *Land Use Technical Report*. These properties are also shown in Figure 4.2-28, Alternative C 2005 vs. ANMP – Areas Newly Exposed, and Figure 4.2-29, Alternative C 2015 vs. ANMP – Areas Newly Exposed.

Off-Airport Surface Transportation

◆ **MM-ST-1. Add Right-Turn Off-Ramp to Emerson Street.**

A westbound right-turn-only off-ramp on the ring road connecting to a one-way northbound extension of Emerson Street near Westchester Parkway to provide access to the LAX Northside property and reduce the number of northbound left turns at the intersection of Sepulveda Boulevard and La Tijera Boulevard.

◆ **MM-ST-2. The Widening of Arbor Vitae Street from Four to Six Lanes.**

◆ **MM-ST-3. Add New Traffic Lanes.**

◆ **MM-ST-4. Restripe Existing Facilities.**

◆ **MM-ST-5. Add ATSAC.⁸⁷⁰**

◆ **MM-ST-6. Add ATCS.⁸⁷¹**

◆ **MM-ST-7. Modify Signal Phasing.**

◆ **MM-ST-8. A One-Way Southbound Extension Of Airport Boulevard Connecting To A Right-Turn-Only To The Ring Road Near Westchester Parkway.**

Relocation

◆ **MM-RBR-1. Phasing for Business Relocations.**

To maximize opportunities for airport/airport-dependent businesses and other business being acquired to relocate in proximity to their current sites, LAWA would, to the maximum degree feasible, reschedule acquisition phasing and/or development phasing to accommodate interested parties on airport property. First priority would be given to airport/airport-dependent businesses, such as airfreight forwarders and hotels, whose relocation off of the airport would present a unique hardship. Master Plan Commitment RBR-1, Residential and Business Relocation Program, would serve to mitigate many of the significant effects stemming from the acquisition program by using LAWA ANMP funds to redevelop noise impacted residential property for industrial uses. Acquisition would be rescheduled by LAWA prior to finalization of the project Relocation Plan.

⁸⁷⁰ ATSAC (Automated Traffic Surveillance and Control) is a traffic signal control system that allows manual remote control of traffic signals. ATSAC provides manual monitoring of the conditions at traffic signals, with the option to remotely adjust signal timing at specific intersections based on current conditions.

⁸⁷¹ ATCS (Adaptive Traffic Control System) is a traffic signal control system that continuously and automatically monitors traffic conditions on a traffic signal grid system, and electronically adjusts signal-timing characteristics of signals based on real-time conditions.

Air Quality

◆ **MM-AQ-1. Implement Revised Air Quality Mitigation Programs.**

LAWA shall expand and revise the existing Air Quality Mitigation Programs at LAX in coordination with the FAA, USEPA, CARB and SCAQMD. The expanded programs shall reduce air quality impacts associated with implementation of the proposed LAX Master Plan. LAWA shall implement technologically/legally feasible and economically reasonable methods to reduce air pollutant emissions from aircraft, GSE, traffic, and construction equipment both on and off the airport. The overall effect of implementing the expanded programs should be substantial reductions in the South Coast Air Basin of NO_x, VOC, and CO by 2015.

LAWA shall expand and revise the existing LAX Air Quality Mitigation Programs to incorporate feasible mitigation measures, including but not necessarily limited to, the following:

- ▶ Continued conversion of ground transportation vehicles to alternative fuels through LAWA's fleet purchasing program and installation of electric vehicle charging stations. Acceleration of the program by incorporating necessary infrastructure into the Master Plan.
- ▶ Continued use and encouragement of the LAWA carpool and rideshare program. Development of methods and incentives to promote ridesharing for all LAX tenant employees.
- ▶ Ongoing implementation of the traffic management programs, including door-to-door van conversions to alternative fuels, installation and operation of the LAX Intelligent Transportation System and Traffic Management Center, modifications to curbside operations, improvements to public parking and fee schedule, and improved roadway intersections, signage and pedestrian walkways.
- ▶ Ongoing expansion of the FlyAway Bus service between LAX and the Van Nuys Airport. Implementation of FlyAway Bus service to at least five other locations in the South Coast Air Basin. Use of alternative-fueled buses for transporting riders between LAX and the FlyAway stations.
- ▶ Incorporation of remote terminal services at the FlyAway stations allowing airline passengers to get tickets and check baggage before riding to LAX.
- ▶ Development of methods and/or incentives to encourage and promote alternative-fueled vehicles or SULEV/ZEV emission engines in commercial vehicles using the terminal areas, in cargo vehicles entering the airport, and in rental cars using on-airport RAC facilities.
- ▶ Continued addition of 400-Hertz electrical ground power and preconditioned air systems to existing aircraft passenger gates.
- ▶ Continued conversion of GSE to alternative-fuels. Acceleration of the program through incorporation of necessary infrastructure into the LAX Master Plan.
- ▶ Development of methods and/or incentives to encourage and promote reduced-engine taxiing by aircraft moving between runways and terminal gates.
- ▶ Implementation of clean-fueled "smart shuttles" for trips between local businesses and LAX.
- ▶ Development of parking pricing policies to encourage single vehicle trips to the airport or minimize idle time at the curb.
- ▶ Specification of clean-fueled construction equipment for use on LAX Master Plan construction projects.
- ▶ Development of methods and/or incentives to encourage and promote alternative-fueled vehicles or SULEV/ZEV emission engines in commercial/cargo vehicles delivering construction material and equipment to LAX Master Plan construction projects.
- ▶ Use of soil stabilization and/or water to reduce fugitive dust emissions from LAX Master Plan construction sites.
- ▶ Use of on-site rock crushing facility to reuse rock/concrete and minimize haul truck trips.

Historic/Architectural and Archaeological/Cultural Resources

◆ **MM-HA-1. Historic American Building Survey (HABS) Document.**

For the Intermediate Terminal Complex and the International Airport Industrial District, which are proposed for demolition, a Historic American Buildings Survey (HABS) document shall be prepared

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by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of documentation (I, II, III, IV) will be determined by the National Park Service. Documentation shall adequately explicate and illustrate what is significant or valuable about each of the historic resources. Documentation data shall be collected prior to commencement of demolition of the buildings.

◆ **MM-HA-2. Historic Educational Materials.**

For those significant historic resources proposed for demolition, as noted in HA1, educational materials suitable for the general public, secondary school use, and/or aviation historians and enthusiasts shall be designed and implemented. The purpose of these materials will be to present in two- or three-dimensional format, the history of the airport and surrounding area. Such materials shall include, but not be limited to, a video/film documentary, curriculum program and teacher's guide, architectural models, and a historical brochure or pamphlet. These materials shall be made available via LAWA's public relations department to the general public, local community school history programs, and related interest groups.

◆ **MM-HA-3. Discovery.**

The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries within the APE of this alternative, which FAA and SHPO agreed are considered eligible for federal, state, and/or local designation. The ATP should include a monitoring plan, research design, and data recovery plan. The ATP should be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation; OHP Archaeological Resources Management Report; Recommended Contents and Format (1989), and the Guidelines for Archaeological Research Design (1991); and take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook*. It should also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. In addition, those steps outlined in Section 21083.2(l) of CEQA and Section 15064.5(f) of the CEQA Guidelines shall be implemented, if necessary.

◆ **MM-HA-4. Monitoring.**

Any grading and excavation activities within LAX proper or the acquisition areas that have been identified as containing redeposited fill material or which have been previously disturbed shall be monitored by a qualified archaeologist. The archaeologist shall be retained by LAWA and will meet the Secretary of the Interior's Professional Qualifications Standards. The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique find has been unearthed, LAWA should be notified and grading operations shall cease immediately on-site until the geographic extent and scientific value of the resource can be reasonably verified. Upon discovery of an archaeological resource or Native American remains, LAWA shall retain a Native American monitor from a list of suitable candidates obtained from the Native American Heritage Commission.

◆ **MM-HA-5. Excavation and Recovery.**

Any excavation and recovery of identified resources (features) shall be performed using standard archaeological techniques and the requirements stipulated in the ATP. Any excavations, testing, and/or recovery of resources shall be conducted by a qualified archaeologist selected by LAWA.

◆ **MM-HA-6. Administration.**

Where known resources are present, all grading and construction plans shall be clearly imprinted with all of the archaeological/cultural Mitigation Measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal as well as procedures to follow should a resource deposit be detected.

◆ **MM-HA-7. Archaeological/Cultural Monitor Report.**

Upon completion of grading and excavation activities in the vicinity of known archaeological resources, the Archaeological/Cultural monitor shall prepare a written report. The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed

in conjunction with the excavation. The report shall be submitted in draft form to the FAA, LAWA and City of Los Angeles, Cultural Affairs Department. City representatives shall have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments.

◆ **MM-HA-8. Artifact Curation.**

All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal and state standards.

◆ **MM-HA-9. Archaeological Notification.**

If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall be implemented.

◆ **MM-HA-10. Historic American Building Survey (HABS) Document.**

For the Merle Norman Headquarters Complex, which is proposed for demolition, a HABS document shall be prepared by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of documentation (I, II, III, IV) will be determined by the National Park Service. Documentation shall adequately explicate and illustrate what is significant or valuable about historic property. Documentation data shall be collected prior to commencement of demolition of the building.

◆ **MM-HA-11. Hangar One Relocation.**

The relocation of Hangar One shall avoid demolition of the structure. Upon SHPO approval, the hangar shall be relocated to an appropriate site within the original Mines Field boundary. Maintaining the building's National Register listing and the majority of its aspects of integrity after relocation is the primary objective of the FAA, LAWA, SHPO, and the ACHP. Therefore, the relocation site selected shall have a similar setting, location, feeling, and association. The building's design, materials, and workmanship shall be retained. Prior to the relocation of the building, a relocation document shall be prepared by LAWA in accordance with the guidelines outlined in the Department of the Interior's Regulations 36 CFR 60.14(b): National Register of Historic Places, Relocating Properties Listing in the National Register. The physical relocation process of this building shall follow state and federal relocation recommendations and standards approved and utilized by SHPO and the National Park Service. Because of its construction, this two-story, rectangular shaped brick and concrete structure is a good candidate for relocation. Rehabilitation of this building after relocation shall conform to the Secretary of the Interior's Standards and Guidelines for Rehabilitation of Historic Structures.

Prior to relocation, a document shall be prepared by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of documentation (I, II, III, IV) shall be determined by the National Park Service. Documentation shall adequately explicate and illustrate what is significant or valuable about the historic resource being documented.

Paleontological Resources

◆ **MM-PA-1. Paleontological Qualification and Treatment Plan.**

A qualified paleontologist shall be retained by LAWA to develop an acceptable monitoring and fossil remains treatment plan for construction-related activities that could disturb potential unique paleontological resources within the project area. This plan shall be implemented and enforced by the project proponent during the initial phase and full phase of construction development. The selection of the paleontologist and the development of the monitoring and treatment plan shall be subject to approval by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County to comply with paleontological requirements as appropriate.

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◆ **MM-PA-2. Paleontological Authorization.**

The paleontologist shall be authorized by LAWA to halt, temporarily divert, or redirect grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. No known or discovered fossils shall be destroyed without the written consent of the project paleontologist.

◆ **MM-PA-3. Paleontological Monitoring Specifications.**

Specifications for paleontological monitoring shall be included in construction contracts for all LAX projects involving excavation activities deeper than six feet.

◆ **MM-PA-4. Paleontological Resources Collection.**

Because some fossils are small, it will be necessary to collect sediment samples of promising horizons discovered during grading or excavation monitoring for processing through fine mesh screens. Once the samples have been screened, they shall be examined microscopically for small fossils.

◆ **MM-PA-5. Fossil Preparation.**

Fossils shall be prepared to the point of identification and catalogued before they are donated to their final repository.

◆ **MM-PA-6. Fossil Donation.**

All fossils collected shall be donated to a public, nonprofit institution with a research interest in the materials, such as the Los Angeles County Museum of Natural History.

◆ **MM-PA-7. Paleontological Reporting**

A report detailing the results of these efforts, listing the fossils collected, and naming the repository shall be submitted to the lead agency at the completion of the project.

Biotic Communities

◆ **MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area.**

LAWA or its designee shall take all necessary steps to ensure that the State-designated sensitive habitats within and adjacent to the Habitat Restoration Area are conserved and protected during construction, operation, and maintenance of any of the three build alternatives for the Master Plan. These steps shall, at a minimum, include the following:

Implementation of construction avoidance measures in areas where construction or staging area adjacent to the Habitat Restoration Area. Prior to the initiation of construction of LAX Master Plan components to be located adjacent to the Habitat Restoration Area, LAWA or its designee shall conduct a pre-construction evaluation to identify and flag specific areas of state-designated sensitive habitats located within 100 feet of construction areas. Subsequent to the pre-construction evaluation, LAWA or its designee shall conduct a pre-construction meeting and provide written construction avoidance measures to be implemented in areas adjacent to state-designated sensitive habitats. Construction avoidance measures include erecting a ten-foot high tarped chain-link fence where the construction or staging area is adjacent to state-designated sensitive habitats to reduce the transport of fugitive dust particles related to construction activities. Soil stabilization and/or watering to reduce fugitive dust emissions during construction will be implemented to reduce particulate matter emissions by 90 to 95 percent (Table 4.6-16, Mitigation Measures with Potentially Quantifiable Air Quality Benefits). In addition, to the extent feasible, no grading or stockpiling for construction activities should take place within 100 feet of a state-designated sensitive habitat. LAWA or its designee shall incorporate provisions for the identification of additional construction avoidance measures to be implemented adjacent to state-designated sensitive areas. All construction avoidance measures that address best management practices shall be clearly stated within construction bid documents. In addition, LAWA shall include a provision in all construction bid documents requiring the presence of a qualified environmental monitor. Construction drawings shall indicate vegetated areas within the Habitat Restoration Area as “Off-Limits Zone.”

On-going maintenance and management efforts for the El Segundo Blue Butterfly Habitat Restoration Area. LAWA or its designee shall ensure that maintenance and management efforts

prescribed in the Habitat Management Plan (HMP) for the Habitat Restoration Area shall continue to be carried out as prescribed.

◆ **MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose.**

LAWA or its designee shall prepare and implement a plan to compensate for the loss of approximately 300 individuals of the sensitive Lewis' evening primrose, currently located on approximately 0.38 habitat units (equivalent to 2.5 acres of Non-Native Grassland/Ruderal community) at the westerly end of the north runway where the plants are located. Implementation of each of the build alternatives would result in the loss of these individuals of Lewis' evening primrose. LAWA or its designee shall collect seed from those plants to be removed, and properly clean and store the collected seed until used. Collected seed shall be broadcast (distributed) after the first wetting rain within areas scheduled for improvement at the Los Angeles/El Segundo Dunes as described in MM-BC-5. LAWA or its designee shall implement a monitoring plan to monitor the establishment of individuals of Lewis' evening primrose for a period of not more than five years. Performance criteria shall include the establishment of at least 300 individuals of this annual plant in the first year following the distribution of seed within areas scheduled for restoration. Monitoring shall be undertaken as a component of the monitoring plan described in MM-BC-5, MM-BC-6, or MM-BC-7.

◆ **MM-BC-3. Conservation of Floral Resources: Mature Tree Replacement.**

LAWA or its designee shall prepare and implement a plan to compensate at a ratio of 1:1 for the loss of approximately 300 mature trees, which would occur as a result of implementation of the Westchester Southside Plan, a component of all three build alternatives. The plan shall include provisions to census and map all mature trees with a diameter of at least eight inches at breast height, which may be removed due to implementation of the Westchester Southside Plan. This information shall be gathered prior to initiation of construction of any of the three build alternatives. The plan shall include a program by which replacement (at a ratio of 1:1) of all impacted mature trees shall be included in plans prepared for landscape treatments in other areas within the Master Plan boundaries, which would then be implemented by LAWA. The species of newly planted replacement trees shall be at the discretion of LAWA.

◆ **MM-BC-4. Conservation of Faunal Resources.**

LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 1.24 habitat units (0.2 habitat units + 1.04 habitat units) of occupied western spadefoot toad habitat and for the loss of western spadefoot toad individuals currently in the southwestern portion of the AOA. LAWA or its designee shall identify possible relocation sites in consultation with the CDFG and USFWS and shall develop and implement a monitoring plan to monitor the success of the relocated tadpoles for a period of not more than five years. LAWA or its designee shall relocate the western spadefoot toad population currently inhabiting three locations on the AOA. One potential site is the Madrona Marsh Nature Center in Torrance, 20 miles south of LAX, which supports several vernal pools and one large pond capable of supporting western spadefoot toads. Spadefoot toad experts suggest the best approach to accomplish relocation is to transport tadpoles and metamorphs only, as adults return to their birth site. Site preparation shall include confirmation, by a permitted biologist, that no predators, such as mosquitofish or bullfrogs, are present within the proposed relocation site or in waterways surrounding the relocation site. The CDFG has suggested that if the first relocation effort is not successful, another attempt should be made the following year. Therefore, western spadefoot toads shall be collected two consecutive years prior to construction activities taking place in existing occupied spadefoot toad habitat. In addition, since western spadefoot toad is known to become reproductively mature within three years, an additional performance criterion shall be the identification of tadpoles at the relocation site between years three and four. The success criteria should be 50 percent survival of all tadpoles and metamorphs for the first, second, and third years following the last relocation. This shall be accomplished through a five-year monitoring plan, with bi-monthly monitoring between January 31st and June 1st, to document the success of this relocation effort.

LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 14.91 habitat units (5.82 habitat units + 9.09 habitat units) of occupied San Diego black-tailed jackrabbit habitat located within the AOA. LAWA or its designee shall relocate the San Diego black-tailed jackrabbit population currently inhabiting the AOA. Relocation efforts shall be

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coordinated with CDFG. San Diego black-tailed jackrabbit shall be captured on the AOA using live traps and shall be released into the Habitat Restoration Area. Compensation for the loss of 14.91 habitat units shall be the utilization of at least 14.91 habitat units of improved habitats within the Los Angeles/El Segundo Dunes by the San Diego black-tailed jackrabbit individuals relocated to the site. Black-tailed jackrabbit is currently absent for the Los Angeles/El Segundo Dunes. Opportunities for habitat improvements are described in MM-BC-5 and include: 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune. LAWA or its designee shall implement a monitoring plan to monitor the success of the relocated individuals for a period of not more than five years. Performance criteria shall include confirmed success of survival for three years of the San Diego black-tailed jackrabbit within the Habitat Restoration Area. This shall be accomplished through a quarterly monitoring plan to document the success or failure of this relocation effort.

LAWA or its designee shall compensate for the loss of areas utilized by loggerhead shrike currently located on the western airfield and comprised of 22.88 habitat units (17.06 habitat units + 5.82 habitat units). Compensation for the loss of 22.88 habitat units of habitat utilized by the loggerhead shrike shall be the utilization of at least 22.88 habitat units of improved habitats within the Los Angeles/El Segundo Dunes. Opportunities for habitat improvements are described in MM-BC-5 and include: 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune. Habitat improvements of at least 22.88 habitat units shall take place prior to construction. LAWA or its designee shall implement a monitoring program for a period of not more than five years. Performance criteria shall include the use of at least 22.8 habitat units of improved habitat by the loggerhead shrike for foraging and nesting. Monitoring shall take place quarterly for the first three years and biannually thereafter. Monitoring shall be timed appropriately to include monitoring during the breeding period, which is between February and June.

◆ MM-BC-5. Replacement of Habitat Units for Alternative A.

LAWA or its designee shall undertake mitigation for the loss of habitat units resulting from implementation of Alternative A. Implementation of Alternative A would result in the loss of 61.27 habitat units. These habitat units shall be replaced at a ratio of 1:1 by improving existing habitats within the Los Angeles/El Segundo Dunes. Opportunities for habitat improvements include: 13.52 habitat units (16.9 acres x 0.8 Habitat Value) from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune (36.11 acres of streets within the Los Angeles/El Segundo Dunes x 0.5 x 0.8 Habitat Value); and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune (74.6 acres x 0.8 Habitat Value). A habitat value of 0.8 is considered to be the maximum feasible target value for restoration and enhancement of biotic communities.

Improvement of habitat within the Los Angeles/El Segundo Dunes shall include: (1) restoration/creation of habitat in accordance with the opportunities listed above, and (2) monitoring/management of restored/created habitat areas for a period of not less than five years to ensure the long-term viability and quality of restored/created habitat.

Valley Needlegrass Grassland restoration efforts consist of site preparation, propagation and planting of species characteristic of the Valley Needlegrass Grassland community at the Los Angeles/El Segundo Dunes and maintenance and monitoring of the restoration site. The species to be planted include native perennials as described in the Long-term Habitat Management Plan for Los Angeles Airport/El Segundo Dunes. The characteristic species include: nodding needlegrass (*Nasella cernua*): 1500 plants/habitat unit; white everlasting (*Gnaphalium microcephalum*): 40 plants/habitat unit; doveweed (*Eremocarpus setigerus*): 40 plants/habitat unit; California croton (*Croton californica*): 45 plants/habitat unit; and dune primrose (*Camissonia chieranthifolia*): 70 plants/habitat unit. Site preparation includes physical demarcation of the site, mapping of the restoration site onto a 1 inch:40 feet aerial photograph, and removal of all non-native species (weed abatement). Removal of non-native herbaceous species shall take place by mowing prior to seed set, raking to remove cut material, and hand-pulling the remainder. Removal of non-native shrubs shall be undertaken by

cutting and daubing with herbicide. Propagation and planting of nodding needlegrass shall be accomplished by propagation from seed collected on-site during late spring/early summer. Seed shall be properly cleaned, dried, and stored until used. In late summer, nodding needlegrass seed shall be propagated at an on-site nursery in 2-inch thimble pots and properly maintained. Nodding needlegrass shall be planted at a rate of 1500 plants per habitat unit within Non-Native Grassland/Ruderal community, within the Los Angeles/El Segundo Dunes, which has undergone site preparation as described above. Planting shall take place in the fall or after the first wetting rain. Maintenance of restoration plantings shall consist of adequate irrigation and weed abatement. Given the irregularity of rainfall in Southern California, supplemental irrigation shall be provided for two years to ensure the successful establishment of mitigation plantings. Irrigation of the site shall be adjusted to adequately provide for the establishment of the out-plantings. Weed abatement shall take place on a quarterly basis for a period of five years. Monitoring shall be undertaken on a quarterly basis for the first three years following planting, and twice a year thereafter. Monitoring shall consist of qualitative and quantitative monitoring; quantitative monitoring shall take place once a year. Performance criteria to be met include the attainment of at least a 10 percent cover of native cover as determined by the point-intercept transect method (the CDFG has adopted a 10 percent threshold of native cover as its criteria for significance of native grasslands). This plan assumes the performance criteria outlined below shall be met. If monitoring discerns any failure in performance goals, remedial plantings shall be undertaken. Habitat restoration shall be conducted by a qualified habitat restoration specialist.

Southern Foredune restoration efforts consist of site preparation, propagation and planting of the species characteristic of the Southern Foredune community at the Los Angeles/El Segundo Dunes, and maintenance and monitoring of the restoration site. The species to be planted include primary and secondary perennial plants as described in the Long-term Habitat Management Plan for Los Angeles Airport/El Segundo Dunes. Site preparation, propagation and planting, and maintenance and monitoring shall take place as described above. Performance criteria to be met include the attainment of 10, 20, 30, 40, and 45 percent cover of native species over a 5-year period as determined by the point-intercept method. This plan assumes the performance criteria outlined below shall be met. If monitoring discerns any failure in performance goals, remedial plantings shall be undertaken. Habitat restoration shall be conducted by a qualified habitat restoration specialist.

Any combination of habitat replacement completed by LAWA or its designee drawn from the above-listed opportunities that equals at least 61.27 habitat units shall be considered sufficient replacement for the loss of habitat units resulting from implementation of Alternative A.

◆ **MM-BC-6. Replacement of Habitat Units for Alternative B.**

LAWA or its designee shall undertake mitigation for the loss of habitat units resulting from implementation of Alternative B. Implementation of Alternative B would result in the loss of 67.81 habitat units. These habitat units shall be replaced at a ratio of 1:1 by improving existing habitats within the Los Angeles/El Segundo Dunes. Opportunities for habitat improvements include: 13.52 habitat units (16.9 acres x 0.8 Habitat Value) from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Foredune (36.11 acres of streets within the Los Angeles/El Segundo Dunes x 0.5 x 0.8 Habitat Value); and 59.68 habitat units from restoration of Disturbed Dune Scrub/Foredune to Southern Foredune (74.6 acres x 0.8 Habitat Value). A habitat value of 0.8 is considered to be the maximum feasible target value for restoration and enhancement of biotic communities.

Improvement of habitat within the Los Angeles/El Segundo Dunes shall include: (1) restoration/creation of habitat in accordance with the opportunities listed above; and (2) monitoring/management of restored/created habitat areas for a period of not less than five years to ensure the long-term viability and quality of restored/created habitat.

Valley Needlegrass Grassland and Southern Foredune restoration efforts shall be the same as described under Alternative A Section 4.10, Biotic Communities. Any combination of habitat replacement completed by LAWA or its designee drawn from the opportunities listed under Alternative A that equals at least 67.81 habitat units shall be considered sufficient replacement for the loss of habitat units resulting from implementation of Alternative B.

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◆ **MM-BC-7. Replacement of Habitat Units for Alternative C.**

LAWA or its designee shall undertake mitigation for the loss of habitat units resulting from implementation of Alternative C. Implementation of Alternative C would result in the loss of 49.87 habitat units. These habitat units shall be replaced on a one-to-one basis by improving existing habitats within the Los Angeles/El Segundo Dunes. Opportunities for habitat improvements include: 13.52 habitat units (16.9 acres x 0.8 Habitat Value) from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune (36.11 acres of streets within the Los Angeles/El Segundo Dunes x 0.5 x 0.8 Habitat Value); and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune (74.6 acres x 0.8 Habitat Value). A habitat value of 0.8 is considered to be the maximum feasible target value for restoration and enhancement of biotic communities.

Improvement of habitat within the Los Angeles/El Segundo Dunes shall include: (1) restoration/creation of habitat in accordance with the opportunities listed above, and (2) monitoring/management of restored/created habitat areas for a period of not less than five years to ensure the long-term viability and quality of restored/created habitat.

Valley Needlegrass Grassland and Southern Fore dune restoration efforts shall be the same as described under Alternative A.

Any combination of habitat replacement completed by LAWA or its designee drawn from the opportunities listed under Alternative A in Section 4.10, Biotic Communities that equals at least 49.87 habitat units shall be considered sufficient replacement for the loss of habitat units resulting from implementation of Alternative C.

◆ **MM-BC-8. Replacement of State-Designated Sensitive Habitats for Alternative A.**

LAWA or its designee shall undertake mitigation for the loss of State-designated sensitive habitats within the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area. Construction of navigational aids under Alternative A would result in impacts to 1,344 square feet of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including 704 square feet within the Habitat Restoration Area (of which 384 square feet are not within habitat occupied by the El Segundo blue butterfly, and 320 square feet are within habitat occupied by the El Segundo blue butterfly). These square feet shall be replaced at a ratio of 1:1 within the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area, as follows: 640 square feet shall be replaced in the area of the Los Angeles/El Segundo Dunes located south of Sandpiper Street and north of the Habitat Restoration Area where existing navigational aids are scheduled for removal within the Disturbed Dune Scrub/Fore dune community; 384 square feet shall be replaced within the Habitat Restoration Area of the Los Angeles/El Segundo Dunes located in the northern portion of the Valley Needlegrass Grassland community where existing navigational aids are scheduled for removal; and the remaining 320 square feet within the Habitat Restoration Area of the Los Angeles/El Segundo Dunes will be mitigated by implementation of MM-ET-2, El Segundo Blue Butterfly Conservation: Habitat Restoration.

The replacement of 640 square feet of State-designated sensitive habitat shall be undertaken through restoration of 640 square feet with species characteristic of the Southern Fore dune community. Southern Fore dune restoration efforts consist of site preparation, propagation and planting of Southern Fore dune species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units for Alternative A.

The replacement of 384 square feet of State-designated sensitive habitat shall be undertaken through restoration of 384 square feet with species characteristic of the Valley Needlegrass Grassland community. Valley Needlegrass Grassland restoration efforts consist of site preparation, propagation and planting of Valley Needlegrass Grassland species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units for Alternative A.

The replacement of 320 square feet of State-designated sensitive habitat shall be undertaken by implementation of MM-ET-2, El Segundo Blue Butterfly Conservation: Habitat Restoration.

◆ **MM-BC-9. Replacement of State-Designated Sensitive Habitats for Alternative B.**

LAWA or its designee shall undertake mitigation for the loss of State-designated sensitive habitats within the Los Angeles/EI Segundo Dunes, including the Habitat Restoration Area. Construction of navigational aids under Alternative B would result in impacts to 1,088 square feet of State-designated sensitive habitat within the Los Angeles/EI Segundo Dunes, including 320 square feet within the Habitat Restoration Area (which are not within habitat occupied by the EI Segundo blue butterfly). These square feet shall be replaced at a ratio of 1:1 within the Los Angeles/EI Segundo Dunes, including the Habitat Restoration Area, as follows: 768 square feet shall be replaced in the area of the Los Angeles/EI Segundo Dunes located south of Sandpiper Street and north of the Habitat Restoration Area where existing navigational aids are scheduled for removal within the Disturbed Dune Scrub/Foredune community; and 320 square feet shall be replaced within the Habitat Restoration Area of the Los Angeles/EI Segundo Dunes located in the northern portion of the Valley Needlegrass Grassland community where existing navigational aids are scheduled for removal.

The replacement of 768 square feet of State-designated sensitive habitat shall be undertaken through restoration of 768 square feet with species characteristic of the Southern Fore-dune community. Southern Fore-dune restoration efforts consist of site preparation, propagation and planting of Southern Fore-dune species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units for Alternative A.

The replacement of 320 square feet of State-designated sensitive habitat shall be undertaken by restoration of 320 square feet with species characteristic of the Valley Needlegrass Grassland community. Valley Needlegrass Grassland restoration efforts consist of site preparation, propagation and planting of Valley Needlegrass Grassland species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units for Alternative A.

◆ **MM-BC-10. Replacement of State-Designated Sensitive Habitats for Alternative C.**

LAWA or its designee shall undertake mitigation for the loss of State-designated sensitive habitats within the Los Angeles/EI Segundo Dunes, not including the Habitat Restoration Area. Construction of navigational aids under Alternative C would result in impacts to 640 square feet of State-designated sensitive habitats within the Los Angeles/EI Segundo Dunes, not including the Habitat Restoration Area. These square feet shall be replaced at a ratio of 1:1 within the Los Angeles/EI Segundo Dunes, not including the Habitat Restoration Area, as follows: 640 square feet shall be replaced in the area of the Los Angeles/EI Segundo Dunes located south of Sandpiper Street and north of the Habitat Restoration Area where existing navigational aids are scheduled for removal within the Disturbed Dune Scrub/Foredune community.

The replacement of 640 square feet of State-designated sensitive habitat shall be undertaken by restoration of 640 square feet with species characteristic of the Southern Fore-dune community. Southern Fore-dune restoration efforts consist of site preparation, propagation and planting of Southern Fore-dune species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units for Alternative A.

Endangered and Threatened Species

◆ **MM-ET-1. Riverside Fairy Shrimp Habitat Restoration.**

LAWA or its designee shall undertake mitigation for impacts to 1.3 acres of degraded habitat containing embedded cysts of Riverside fairy shrimp. The degraded habitat containing such embedded cysts was determined to have a habitat value of 0.15 based on results of a modified HEP analysis (see Section 4.10, *Biotic Communities*). Habitat occupied by embedded cysts of Riverside fairy shrimp shall be replaced at a suitable alternate location at a ratio of not more than 1:1. Replacement habitat shall have a habitat value of not less than 0.75, as determined by the modified HEP analysis. The FAA will oversee the development of a Riverside Fairy Shrimp Wetland Habitat Restoration Program for the embedded cysts to ensure that the selected development alternative would be consistent with the recommendations provided in the *Recovery Plan for Vernal Pools of Southern California*. LAWA or its designee, in conjunction with the USFWS, shall identify a location suitable for the creation of high-quality habitat to which the soil containing the embedded cysts can be relocated. The FAA has determined that the creation of suitable habitat within the Los Angeles/EI Segundo Dunes presents an unacceptable wildlife hazard pursuant to Title CFR 139.339. Therefore,

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LAWA shall identify opportunities for creation of suitable habitat for embedded cysts of Riverside fairy shrimp outside of areas subject to wildlife hazard management.

Ongoing Section 7 consultation between LAWA, FAA, and USFWS is necessary to identify a mitigation site pursuant to Section 7 of the Endangered Species Act. As a result, eight potentially suitable relocation sites for soils containing embedded cysts of Riverside fairy shrimp have been identified. The site closest to the AOA may exist north of LAX, on the bluffs overlooking the Ballona Wetlands. The site is approximately 44 acres in size. LAWA shall investigate the feasibility of obtaining and utilizing this site for the purpose of creating habitat suitable for Riverside fairy shrimp. Should use of this site be determined infeasible, LAWA shall evaluate the feasibility of six vernal pools or vernal pool complexes in the Los Angeles Basin/Orange Management Area identified by the USFWS: Chiquita Ridge, El Toro, Fairview Park, Orange County Foothills, Saddleback Meadows, and San Clemente State Park. All proposed complexes are located in Orange County.

Should use of these six extirpated sites be determined infeasible, LAWA shall evaluate the feasibility of Henrietta Basin for use as a location for the creation of suitable habitat for Riverside fairy shrimp. Henrietta Basin is a flood control basin located in and owned by the City of Torrance, approximately eight miles south of the AOA of LAX. The basin is located west of the intersection of Spencer Street and Henrietta Street, north of Edgemere Drive. A historic location for California orcutt grass approximately six miles east-southeast of LAX shall also be evaluated for its potential suitability as a restoration site.

Once a suitable location has been identified and secured, LAWA or its designee shall undertake the relocation of soils containing embedded cysts of Riverside fairy shrimp from the western portion of the airfield to the identified location. Salvage shall be undertaken from all sites containing embedded cysts of the Riverside fairy shrimp. The top 6 to 12 inches of soil containing the cysts shall be transplanted during the dry season to minimize damage to the cysts during transport. The soil would then be deposited and spread out in a small basin or pool-like area of similar size without active mechanical compaction to minimize potential damage to the cysts.

LAWA or its designee, in conjunction with the USFWS and a qualified wildlife biologist, shall develop a program to monitor the progress of habitat creation prior to relocation of the embedded cysts, and to monitor created habitat for the presence of adult Riverside fairy shrimp annually for a period of not more than five years.

◆ **MM-ET-2. El Segundo Blue Butterfly Conservation: Habitat Restoration.**

LAWA or its designee shall take all necessary steps to avoid the flight season of the El Segundo blue butterfly (June 14 - September 30) when undertaking installation of navigational aids proposed under Master Plan Alternative A within habitat occupied by the El Segundo blue butterfly. Installation of navigational aids within the Habitat Restoration Area should be required to take place between October 1st and May 31st. The number of coast buckwheat plants impacted shall be mitigated at a ratio of 1:1 and planted a minimum of three years prior to the impact, not only to allow for establishment of the plants, but also to ensure that the plants are mature enough to bloom. The plantings of coast buckwheat shall be located within the southwest corner of subsite 23 of the Habitat Restoration Area, and shall encompass 320 square feet. The area depicted shall be the designated mitigation site for planting coast buckwheat and the site to which El Segundo blue butterfly pupae shall be relocated. Prior to navigational aid installation, a permitted and qualified biologist shall salvage El Segundo blue butterfly larvae in coordination with the USFWS in order to minimize impacts to the butterfly. Based on LAWA's restoration experience within the Habitat Restoration Area, occupation of restored habitat can occur within 2 to 3 years of restoration efforts. Therefore, there would be no net loss in acres or value of occupied habitat.

◆ **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control.**

To reduce the transport of fugitive dust particles related to construction activities, soil stabilization and/or watering to reduce fugitive dust emissions during construction shall be implemented to reduce particulate matter emissions by 90 to 95 percent. In addition, to the extent feasible, no grading or stockpiling for construction activities should take place within 100 feet of occupied habitat of the El Segundo blue butterfly.

Light Emissions

◆ **MM-LI-1. LAX Expressway Lighting Assessment.**

As part of final design for the LAX Expressway LAWA shall undertake an assessment of potential adverse lighting effects based on detailed plans. The documentation shall include baseline ambient lighting measurements along the portions of the LAX Expressway adjacent to sensitive uses. The baseline data shall be used to estimate potential change in ambient lighting conditions with development of the Expressway. If it is determined that adverse effects would occur on residential uses, then landscaped buffer areas, setbacks, lighting specifications and placement, or other techniques shall be required to ensure that lighting intensity over baseline conditions for residential uses does not increase by more than 2 footcandles.

Design, Art and Architectural Application/Aesthetics

◆ **MM-DA-1. Construction Fencing.**

Construction fencing and pedestrian canopies shall be installed by LAWA to the degree feasible to ensure maximum screening of areas under construction along major public approach and perimeter roadways, including Sepulveda Boulevard, Century Boulevard, Westchester Parkway, Pershing Drive, and Imperial Highway west of Sepulveda Boulevard. Along Century Boulevard, Sepulveda Boulevard, and in other areas where the quality of public views are a high priority. Provisions shall be made by LAWA for temporary art, murals, or other treatment of the fencing to reduce temporary visual impacts.

◆ **MM-DA-2. LAX Expressway View Analysis.**

As part of final design for the LAX Expressway, a view analysis shall be undertaken by LAWA to address aesthetic impacts on residential and other view sensitive properties. The view analysis shall document proposed roadway elevations, setbacks, and landscaped buffer areas, determining the extent to which existing views from residential and other view sensitive properties would be degraded. As a performance standard, project design features or conditions of approval shall ensure that the LAX Expressway is attractively screened from the view of significantly impacted properties to an equivalent or greater level than provided by existing landscaping or other intervening structures that screen views to the I-405. Screening shall be achieved through measures that may include, but shall not be limited to, decorative block walls and landscaped greenbelts.

◆ **MM-DA-3(a). Scattergood Visual Effects.**

Prior to approval of fuel farm plans for the Scattergood site and based on more detailed development and grading plans, LAWA shall complete a visual survey to determine the following:

- ▶ Existing views of the ocean and of the tank site from residences on Loma Vista Avenue.
- ▶ The effects of the planned development on existing views from residences on Loma Vista including staking of maximum tank heights.
- ▶ The line-of-sight and exposed tank surface area (including the 50-foot fire water tank) of the existing and proposed facility, from east- and west-bound Grand Avenue, south-bound Vista del Mar, west-bound Franklin Avenue (City of El Segundo), Dockweiler State Beach, and the South Bay Bicycle Trail located west of Vista del Mar.
- ▶ The changes to the site topography and tank exposure affected by the removal of the existing berm.

◆ **MM-DA-3(b). Scattergood Visual Effects.**

The visual survey shall specify measures to be implemented by LAWA which shall maintain or enhance the visual quality of the site and reduce to a less-than significant level visual impacts on views from Vista del Mar, Dockweiler State Beach, the regional bike path, Franklin Street, Grand Avenue, and effected residential uses on Loma Vista. Performance standards include:

- ▶ Avoiding view blockage from primary windows and viewing areas of adjacent homes; or, if not feasible, achieving a less than 10 percent diminishment of existing ocean views.
- ▶ Ensuring no net increase in surface tank exposure to views from Vista del Mar, Dockweiler State Beach, the regional bike path, Franklin Street, and Grand Avenue.

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- ▶ Achieving an equivalent or greater level of aesthetic quality than currently exists on the site as viewed from public vantage points.

To achieve these performance standards, LAWA actions shall include but not necessarily be limited to the following:

- ▶ Placement of the proposed facilities to prevent incursion into existing ocean views.
- ▶ The use of contour grading to enhance the dune natural appearance of the site.
- ▶ Development of site topography to reduce the visual exposure of the fuel tanks and facilities from key vantage points.
- ▶ Reduction in the proposed height of individual fuel tanks to reduce visual exposure from key vantage points and avoid screening of existing ocean views.
- ▶ Provision of setbacks from Grand Avenue and from the northern property line equivalent to, or greater than, what exists.
- ▶ Installation of dense landscaped buffers along Grand Avenue and in other areas of the site to screen the industrial facilities from key vantage points along Vista del Mar and to the west.
- ▶ Development of walls or berms combined with landscaping for screening.
- ▶ Subtle coloring of the tanks and on-site structures consistent with earth tones.
- ▶ Verification of achievement of the performance standards prior to initiation of facility operations.

Libraries

◆ MM-LS-1. Temporary Replacement Library.

In the event that the proposed Master Plan causes early closure of the Westchester Branch Library, LAWA shall coordinate with the Los Angeles Public Library Bureau of Engineering to identify an acceptable site for a temporary replacement library. The temporary facility shall include a minimum of 6,000 SF of library space. All possible efforts would be made by LAWA to avoid a period where a loss of facility space would occur.