

# LAX MASTER PLAN

## MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)



## 2011 ANNUAL PROGRESS REPORT



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*Los Angeles  
World Airports*

**LAX MASTER PLAN**  
**MITIGATION MONITORING AND REPORTING PROGRAM**  
**(MMRP)**

**2011 ANNUAL PROGRESS REPORT**

**Prepared by**

**Los Angeles World Airports**

# LAX Master Plan MMRP 2011 Annual Progress Report

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- B. MMRP (SAIP, CFTP, and BWP-specific measures)
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## 1.0 Executive Summary

Los Angeles City Council certified the LAX Master Plan Final Environmental Impact Report (FEIR) and adopted the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) on December 7, 2004. Pursuant to Section 15097 of the California State CEQA Guidelines, the lead agency, Los Angeles World Airports (LAWA), is responsible for reporting, monitoring, and ensuring implementation of all applicable mitigation measures in accordance with the adopted MMRP. This document is the seventh annual progress report for the LAX Master Plan MMRP. This report provides a status update on applicable mitigation activities, policies, and programs that have been and are being implemented by LAWA to ensure compliance with mitigation measures identified in the LAX Master Plan FEIR.

Additional project-specific mitigation measures were identified for the South Airfield Improvement Project (SAIP), Crossfield Taxiway Project (CFTP), and the Bradley West Project (BWP) Final Environmental Impact Reports (FEIRs), the second and third project-level tiered environmental review documents for the LAX Master Plan Program, respectively. Los Angeles City Council approved the SAIP and certified the FEIR on January 11, 2006, the CFTP and certified the FEIR on February 9, 2009, and the BWP and FEIR on October 14, 2009. The Los Angeles City Council adopted MMRPs for the SAIP, CFTP, and BWP to mitigate or avoid potentially significant effects on the environment during construction of these projects.

Mitigation measures applicable to the LAX Master Plan and the BWP are in the process of being implemented. Mitigation measures applicable to the SAIP and CFTP (with the exception of ongoing measures MM-BC (SA)-1 and MM-BC (CFTP)-1) were implemented and the projects are now complete. The SAIP was completed in June 2008 and the CFTP was completed in May 2010. Mitigation measures are implemented, monitored, and reported on in accordance with four main categories: (1) Program plans; (2) Construction-related mitigation measures; (3) Design mitigation requirements; and (4) "Stand-alone" mitigation plans, as explained below:

- (1) Program plans are documents that address program-wide mitigation measures specified in the LAX Master Plan MMRP and provide a framework to clearly identify the mitigation measure, define the process of implementation, and establish monitoring and reporting requirements. Some of the program plans are required to update existing operating procedures within appropriate LAWA Divisions and some program plans may be required to develop new procedures and guidelines. Examples of updating existing operations include the maintenance of applicable elements of the existing Aircraft Noise Abatement Program (ANAP) or implementing a Revised Aircraft Noise Mitigation Program (ANMP). New program plans were developed to address specific mitigation measures from the MMRP, such as the Mitigation Plan for Air Quality (MPAQ) to address air quality impacts.
- (2) To mitigate or avoid potential significant impacts on the environment during construction, construction-related mitigation measures were implemented by requiring the Construction Contractors to comply with specific environmental requirements. Key areas of mitigation include reduction of traffic impacts by requiring construction deliveries not to coincide with peak traffic periods; and

- construction equipment replacements and/or retrofit for noise control and reduction of air pollution.
- (3) Some mitigation measures, such as measures to maximize use of reclaimed water, were incorporated into the design of the CFTP and BWP and will be incorporated into all other LAX Master Plan projects during the design process.
  - (4) "Stand-alone" mitigation plans are specifically developed to address impacts that are not specifically linked to any one project within the LAX Master Plan. These stand-alone plans are summarized in Appendix D of this report.

## 2.0 Introduction/Background

In December 2004, the Los Angeles City Council approved the LAX Master Plan and related entitlements for the future development of LAX. The LAX Master Plan allows for the first major new facilities for, and improvements to, the airport since 1984, and plans how projected growth in passengers and cargo at LAX can be accommodated, in part, through the year 2015. The approved LAX Master Plan includes airfield modifications, development of new terminals, and new landside facilities to accommodate passenger and employee traffic, parking, and circulation. The LAX Master Plan serves as a broad policy statement regarding the conceptual strategic planning framework for future improvements at LAX and working guidelines to be consulted by Los Angeles World Airports (LAWA) as it formulates and processes site-specific projects under the LAX Master Plan program.

Together with its approval of the LAX Master Plan, the Los Angeles City Council certified the LAX Master Plan Final Environmental Impact Report (FEIR) and adopted the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP). The MMRP (reference **Appendix A**) documents all mitigation measures set forth in the FEIR. The basic framework of, and requirements for, the MMRP were established in conjunction with approval of the LAX Master Plan and are anticipated to remain in effect throughout implementation of the Master Plan. If additional new mitigation measures are required in conjunction with subsequent environmental (i.e., CEQA) review of individual projects proposed under the Master Plan, such as the Crossfield Taxiway Project (CFTP) and the Bradley West Project (BWP), the MMRP will be updated in a similar manner to include such additional project-specific measures.

Additional project-specific mitigation measures were identified for the South Airfield Improvement Project (SAIP), Crossfield Taxiway Project (CFTP), and the Bradley West Project (BWP) Final Environmental Impact Reports (FEIRs), the second and third project-level tiered environmental review documents for the LAX Master Plan Program, respectively. Los Angeles City Council approved the SAIP and certified the FEIR on January 11, 2006, the CFTP and certified the FEIR on February 9, 2009, and the BWP and FEIR on October 14, 2009. The Los Angeles City Council adopted MMRPs for the SAIP, CFTP, and BWP to mitigate or avoid potentially significant effects on the environment during construction of these projects.

Mitigation measures applicable to the LAX Master Plan and the BWP are in the process of being implemented. Mitigation measures applicable to the SAIP and CFTP (with the exception of ongoing measures MM-BC (SA)-1) and MM-BC (CFTP)-1) were implemented and the projects are now complete. The SAIP was completed in June

2008 and the CFTP was completed in May 2010. Please see Section 25.0 of this report for project-specific status updates.

**Appendix B** provides a comprehensive delineation of all project-specific mitigation measures adopted to date for Master Plan projects. **Appendix A and B** provide the most current and comprehensive delineation of Master Plan commitments and mitigation measures included within the overall MMRP.

As discussed in prior annual MMRP progress reports, implementation or completion of some LAX Master Plan mitigation measures may be affected by ongoing evaluation of alternatives to certain LAX Master Plan projects as part of the LAX Specific Plan Amendment Study (SPAS) process. The SPAS is currently being reviewed in compliance with the California Environmental Quality Act (CEQA). Final action on the SPAS is expected in 2013.

The primary purpose of this report is to document and report on the status of the current and recently completed mitigation measures set forth in the LAX Master Plan MMRP. This report covers the period January 1, 2011 through December 31, 2011.

### 3.0 Noise

#### 3.0.A N-1 Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program (ANAP)

The LAX Master Plan MMRP states:

***“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.”

The existing ANAP at LAX currently is maintained by LAWA’s Noise Management Section (NMS). The existing ANAP at LAX sets forth LAWA’s noise abatement traffic, flight, and runway use procedures. All aircraft operations at LAX must comply with FAA regulations and procedures for noise abatement and noise emission standards and with all rules, policies, procedures, resolutions, and ordinances established by the City of Los Angeles, LAWA, and LAWA’s Board of Airport Commissioners relative to noise abatement. LAWA’s NMS will continue to maintain the Noise Abatement Program throughout implementation of the LAX Master Plan projects. Actions indicating compliance include submission of the Quarterly Report per the 2005 Stipulated Variance to the County of Los Angeles. Included in each quarterly report is a short summary of actions indicating compliance with each condition of the variance, including “continuing, in full force and effect, the implementation and enforcement of the.... noise abatement policies.”

#### **Status→ Existing Policy:**

LAWA has complied with this commitment by continually maintaining the existing Aircraft Noise Abatement Program (ANAP) at LAX, as well as submitting the summary report with each Quarterly Report to the County of Los Angeles, per the Variance requirement.

### 3.0.B MM-N-4 Update the Aircraft Noise Abatement Program Elements as applicable to adapt to the future Airfield configuration

The LAX Master Plan MMRP states:

***“Update the Aircraft Noise Abatement Program Elements as applicable to adapt to the future Airfield configuration. When existing runways are relocated or reconstructed as part of the Master Plan, the aircraft noise abatement actions associated with those runways shall be modified and re-established as appropriate to assure continuation of the intent of the existing program.”***

**Status→ No action required at this time:**

No changes to the ANAP were required as a result of any of the ongoing Master Plan projects.

### 3.0.C MM-N-5 Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory

The LAX Master Plan MMRP states:

***“Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory. A 14 CFR Part 161 Study shall be initiated to seek federal approval of a locally-imposed Noise and Access Restriction on departures to the east during Over-Ocean Operations, or when Westerly Operations remain in effect during the Over-Ocean Operations time period.”***

The Part 161 Study is a technical and legal study regarding implementation of a Noise and Access Restriction. The proposed restriction includes departures between the hours of midnight and 6:30 a.m. over the communities to the east of LAX, when LAX is operating in either over-ocean operations or remains in westerly operations, and excluding times when LAX operates in easterly operations (49 U.S.C. Section 47521 et seq.). The Part 161 Study must meet the relevant requirements of the Airport Noise and Capacity Act of 1990 (ANCA) and the Part 161 regulations (14 C.F.R. Part 161).

**Status→ In Progress:**

The Part 161 Study process encompasses three general elements including: (1) data collection and analysis to justify the LAX Proposed Restriction; (2) evaluation and explanation of the legal, environmental, and economic impacts of the proposed restriction; and (3) preparation and submittal to the FAA of the required reports and application materials. LAWA began the Part 161 Study in June 2005.

During 2011, the LAX Part 161 Study re-commenced in April 2011 upon approval of a two-year contract extension with the selected vendor, Harris Miller Miller and Hanson Inc. (HMMH), by BOAC and the City Council. The baseline and projected fleet mix forecasts were completed and submitted to FAA for approval. HMMH began preliminary noise modeling based on these forecasts. The draft ordinance to implement the LAX Proposed Restriction was prepared and submitted to the City Attorney for review and approval. HMMH submitted a preliminary draft of the application to LAWA for review. LAWA and HMMH also started planning for the Public Outreach Program, which will commence in 2012. The application is expected to be submitted to the FAA in 2012.

### 3.0.D. MM-N-7 Construction Noise Control Plan

The LAX Master Plan MMRP states:

***“Construction Noise Control Plan.*** *A Construction Noise Control Plan will be prepared to provide feasible measures to reduce significant noise impacts throughout the construction period for all projects near noise sensitive uses. For example, noise control devices shall be used and maintained, such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation changes and existing buildings may be used to shield construction noise.”*

**Status→ Ongoing:**

LAWA requires submission of a Construction Noise Control Plan (CNCP) as a condition in all construction contracts at LAX. This is part of the standard LAWA specifications on each project.

### 3.0.E. MM-N-8 Construction Staging

The LAX Master Plan MMRP states:

***“Construction Staging.*** *Construction operations shall be staged as far from noise-sensitive uses as feasible.”*

**Status→ Ongoing:**

LAWA requires this condition in all construction contracts at LAX.

### 3.0.F. MM-N-9 Equipment Replacement

The LAX Master Plan MMRP states:

***“Equipment Replacement.*** *Noisy equipment shall be replaced with quieter equipment (for example, rubber tired equipment rather than track equipment) when technically and economically feasible.”*

**Status→ Ongoing:**

LAWA requires this condition in all construction contracts at LAX.

### 3.0.G. MM-N-10 Construction Scheduling

The LAX Master Plan MMRP states:

***“Construction Scheduling.*** *The timing and/or sequence of the noisiest on-site construction activities shall avoid sensitive times of the day, as feasible (9 p.m. to 7 a.m. Monday-Friday; 8 p.m. to 6 a.m. Saturday; anytime on Sunday or Holidays).”*

**Status→ Ongoing:**

LAWA requires this condition in all construction contracts at LAX.

### 3.0.H. MM-N-11 Automated People Mover (APM) Noise Assessment and Control

The LAX Master Plan MMRP states in part:

***“Automated People Mover (APM) Noise Assessment and Control Plan.*** *In conjunction with detailed design and engineering of the proposed APM systems, a noise control plan shall be prepared specifying noise attenuation measures to reduce APM noise levels at the two significantly impacted hotels to acceptable level (i.e. less than 67 dBA CNEL for the Courtyard by Marriott and the Four Points Sheraton).”*

**Status→ Not Applicable:**

Not required at this time. This measure is not applicable at this reporting period because LAWA has not entered the engineering or design phases of the APM Project.

## **4.0 Land Use**

### 4.0.A LU-1 Incorporation of City of Los Angeles Ordinance No. 159,526 (Q) Zoning Conditions for LAX Northside into the LAX Northside/Westchester Southside Project

The LAX Master Plan MMRP states in part:

***“Incorporation of City of Los Angeles Ordinance No. 159,526 (Q) Zoning Conditions for LAX Northside into the LAX Northside/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 a new LAX Zone/LAX Specific Plan for the LAX Northside/Westchester Southside project.”*

**Status→ Completed:**

The LAX Specific Plan, adopted by the City Council in December, 2004, established the LAX Northside as a distinct land use designation and added the LAX-N Zone to the Los Angeles Municipal Code. Section 11 of the LAX Specific Plan incorporates all conditions of development, including the [Q] Conditions, described in Ordinance 159,526 into the Specific Plan.

### 4.0.B LU-2 Establishment of a Landscape Maintenance Program for Parcels Acquired due to Airport Expansion

The LAX Master Plan MMRP states:

***“Establishment of a Landscape Maintenance Program for Parcels Acquired due to Airport Expansion.*** *Land acquired and cleared for airport development will be fenced, landscaped, and maintained regularly until the properties are actually developed for airport purposes.”*

**Status→ Not Applicable:**

This measure is not applicable at this reporting period because LAWA did not acquire any Alternative D parcels in 2011.

**4.0.C LU-4 Neighborhood Compatibility Program**

The LAX Master Plan MMRP states in part:

***“Neighborhood Compatibility Program.*** *Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods.”*

**Status→ In Progress:**

LAWA, through its Stakeholder Liaison Office, consults with the neighboring communities on all Master Plan projects. Other projects subject to the LAX Plan Compliance Review (LAX Specific Plan section 7) also must have community input before approval. Conditions of development along the northern and southern boundaries of the airport property include, but are not limited to, setbacks, buffer zones and landscaping.

**4.0.D LU-5 Comply with City of Los Angeles Transportation Element Bicycle Plan**

The LAX Master Plan MMRP states in part:

***“Comply with City of Los Angeles Transportation Element Bicycle Plan.*** *LAWA will comply with bicycle policies and plans in the vicinity of LAX, most notably those outlined in the City of Los Angeles Transportation Element Bicycle Plan and the General Plan Framework, including Pershing Drive, Sepulveda Boulevard, and Aviation Boulevard.”*

**Status→ Ongoing:**

The City of Los Angeles approved the latest Bicycle Master Plan (independent of LAWA) in March 2011. The Plan shows streets that are expected to have bike routes and bike lanes in the future. Although LAWA uses the information in the Los Angeles Bicycle Master Plan when designing potential off-airport mitigations, LAWA is not expected to install any bike facilities. LAWA is in compliance with the Plan, and no relevant action was required from LAWA in 2011.

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

The LAX Master Plan MMRP states:

***“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 LAX Master Plan, unless such uses are subject to an existing aviation easement and have been provided with noise mitigation funds. 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) and current Noise*

*Variance. With the exception of a possible new interior noise level standard for schools to be established through the study required by Mitigation Measure MM-LU-3, Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn, 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 noise level 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 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 current LAX Noise Variance pursuant to the California Airport Noise Standards, with the updates made available (upon request) to affected local jurisdictions, the Airport Land Use Commission of Los Angeles County, and other interested parties.*
- *Continue the current 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 through:*
  - *Increased annual funding by LAWA for land use mitigation;*
  - *Reevaluating aviation easements requirements with sound insulation mitigation;*
  - *Provision by LAWA of additional technical assistance, where needed, to local jurisdictions to support more rapid and efficient implementation of their land use mitigation programs;*
  - *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.*
- *Amend the ANMP to include libraries as noise-sensitive uses eligible for aircraft noise mitigation.*
- *Upon completion of the acquisition and/or soundproofing commitment under the current Program, expand the boundaries of the ANMP as necessary over time. LAWA will continue preparing quarterly reports that monitor any expansion of the 65 CNEL noise contours beyond the current ANMP boundaries. Based upon these quarterly reports, LAWA will evaluate and adjust the ANMP boundaries, periodically as appropriate, so that as the 65 CNEL noise contours expand, residential and noise sensitive uses newly impacted by 65 CNEL noise levels would be included within the Program.”*

*The Aircraft Noise Mitigation Program (ANMP) describes the ongoing efforts by LAWA to convert existing incompatible land uses surrounding LAX to compatible land uses through the implementation of two noise mitigation strategies: (1) sound insulation of structures; and (2) acquisition of property followed by the conversion of its incompatible land use to compatible land use (land recycling).*

*LAWA implements the ANMP in an effort to reduce adverse impacts of airport noise and achieve airport standards as set forth in Chapter 6 of Title 21 of the California Code of Regulations. ANMP reports are also specifically required by the State of California as a formal condition of approval of the three-year variances granted by the State to LAWA airports that have not achieved land use compatibility. Based on current data and funding commitments, the ANMP documents the progress made toward achieving land use compatibility and projects the ultimate date when full compatibility will be reached.*

#### **Status→ In Progress:**

As described above, LAWA has an existing program in place with periodic updates to the State of California and the County of Los Angeles. The last full update was the 2005 ANMP which was submitted in October of 2006. The status of LAWA's existing Aircraft Noise Mitigation Program also is reported in **Appendix C**. In addition, specific updates are as follows:

- LAWA continues to implement two very successful programs to convert existing incompatible land uses to compatible land uses through sound insulation of structures (LAWA's LAX Soundproofing program) and the acquisition and conversion of incompatible land use to compatible land use (LAWA's Residential Acquisition program).
- Annual updates in support of the requirements of the current LAX Noise Variance pursuant to the California Airport Noise Standards are submitted with the Quarterly Report for the second quarter each year, with the updates provided to all affected jurisdictions, and made available upon request to other interested parties.

- Pre- and post-insulation noise monitoring audits are regularly conducted to ensure achievement of interior noise levels at or below 45 CNEL.
- Land use mitigation programs are being implemented as quickly as possible given that participation in the program is voluntary.
- LAWA makes available land use mitigation funds as soon as the jurisdiction has met all program requirements and upon approval of BOAC.
- Avigation easements are no longer required for sound insulation, except for limited circumstances. Avigation easements are still required for land acquisition using LAWA funds.
- Under very limited circumstances, as required by California Airport Noise Standards where acoustical treatments alone are insufficient to convert residential land uses to compatible uses with airport operations, noise easements are required for residential sound insulation mitigation.
- LAWA makes available the resources for timely technical assistance, where needed, to local jurisdictions to support more rapid and efficient implementation of their land use mitigation programs.
- Selection of and prioritization of properties to be sound insulated or acquired are in consideration of the following:
  - a. Insulation or acquisition of properties within the highest CNEL measurement zone.
  - b. Acceleration of the fulfillment of existing commitments to owners wishing to participate within the current ANMP boundaries prior to proceeding with newly eligible properties.

#### 4.0.F MM-LU-2 Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program

The LAX Master Plan MMRP states:

***“Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program. In addition to any restrictive measures that may be implemented resulting from completion of Mitigation Measure MM-N-5, Conduct Part 161 Study to Make Over-Ocean Departure Procedures Mandatory, the boundaries of the ANMP will be expanded to include residential uses newly exposed to single event exterior nighttime noise levels of 94 dBA SEL, based on the Master Plan alternative that is ultimately approved and periodic reevaluation and adjustments by LAWA. Uses that are newly exposed would be identified based on annual average conditions as derived from the most current monitored data.”***

**Status→ In Progress:**

All of the newly impacted areas, by definition, would be outside of the 65 CNEL area as defined by the ANMP. Therefore, they will be prioritized after the completion of the current residential program. As part of the standard Variance requirements, annual ANMP progress reports and periodic ANMP report updates will continue to be submitted to the County of Los Angeles.

**4.0.G MM-LU-3 Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn**

The LAX Master Plan MMRP states:

***“Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn.*** *Current studies of aircraft noise and the ability of children to learn have not resulted in the development of a statistically reliable predictive model of the relative effect of changes in aircraft noise levels on learning. Therefore a comprehensive study shall be initiated by LAWA to determine what, if any, measurable relationship may be present between learning and the disruptions caused by aircraft noise at various levels. An element of the evaluation shall be the setting of an acceptable replacement threshold of significance for classroom disruption by both specific and sustained aircraft noise events.”*

**Status→ In Progress:**

The Transportation Research Board’s (TRB’s) Airport Cooperative Research Program (ACRP) has allocated \$450,000 to perform a study entitled Evaluating the Impact of Aviation Noise on Learning. This study is currently underway. A panel created by the TRB, including one LAWA staff member, has defined the scope and objectives of the study, selected the contractor to perform the work, is evaluating the work, and will review and comment on the draft and final report.

The objectives of the ACRP study, as currently defined, will be to determine when aircraft noise impacts student learning and what noise metric(s) best defines impact on learning. The contractor was hired by ACRP in 2010 to perform the study, and the study is now ongoing with the expected completion in the 3<sup>rd</sup> or 4<sup>th</sup> quarter of 2012. The final study may not be published until well into 2013 at this point.

Upon completion of the study, LAWA will assess the conclusions of the study against the goal of setting an acceptable threshold of significance for classroom disruption by both specific and sustained aircraft noise events. If the goals are met, then further study will not be necessary. If the goals are not met, or only partially met, then LAWA will assess the need for additional study, as required.

#### 4.0.H MM-LU-4 Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise

The LAX Master Plan MMRP states:

***“Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. Prior to completion of the study required by Mitigation Measure MM-LU-3, Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn, and within six months of the commissioning of any relocated runways associated with implementation of the LAX Master Plan, LAWA shall conduct interior noise measurements at schools that could be newly exposed to noise levels that exceed the interim LAX interior noise thresholds for classroom disruption of 55 dB Lmax, 65 dB Lmax, or 35 Leq(h), as presented in Section 4.1 Noise, of the Final EIS/EIR. All school classroom buildings (except those within schools subject to an aviation easement) that are found through the noise measurements to exceed the interim interior noise thresholds, as compared to the 1996 baseline conditions presented in the Final EIS/EIR, would become eligible for soundproofing under the ANMP.***

*Upon completion of the study required by Mitigation Measure MM-LU-3 and acceptance of its results by peer review of industry experts, any schools found to exceed a newly established threshold of significance for classroom disruption based on comparison with 1996 baseline conditions due to implementation of the LAX Master Plan, shall be eligible for participation in the ANMP administered by LAWA, unless they are subject to an existing aviation easement. A determination of which schools become eligible will be made following application of the new threshold based on measured data.”*

**Status→ Not required at this time:**

LAWA will implement this measure's requirements contingent on the results from the study required by MM-LU-3. It should be noted that there is ongoing work related to settlement agreements that were reached between LAWA and both the Inglewood Unified and Lennox School Districts. LAWA actively is assisting each school district in its efforts to mitigate the impacts to schools, per those agreements.

On July 9, 2008 LAWA submitted a letter to the FAA asking that a determination be made related to which schools are impacted. On August 24, 2009 the FAA responded to LAWA by letter with information that this determination will be made as part of the Passenger Facility Charge (PFC) application process. LAWA is proceeding with the PFC application pending information from each school district sufficient for the FAA to make such a determination.

On October 2, 2008, Congress enacted Public Law 110-337, which made noise mitigation for certain schools located within the LAX noise impact area in both the Lennox School District (LSD) and the Inglewood Unified School District (IUSD) eligible for PFC funding regardless of an easement.

#### **Lennox School District**

On January 10, 2011, the BOAC authorized LAWA to submit the PFC application to the FAA for authorization to collect and use PFC funds to sound insulate impacted schools in the Lennox School District (LSD), with the application submitted to FAA on February 2, 2011. On May 2, 2011 the FAA issued the Final Agency Decision (FAD) finding the

schools in LSD to be “significantly impacted and adversely affected by aircraft noise,” and authorized the expenditure of up to \$34,089,058 in PFC funds to insulate the schools listed in the Settlement Agreement between LAWA and LSD.

On May 2, 2011 the FAA issued the Final Agency Decision (FAD) finding the schools in LSD to be “significantly impacted and adversely affected by aircraft noise,” and authorized the expenditure of up to \$34,089,058 in PFC funds to insulate the schools listed in the Settlement Agreement between LAWA and LSD.

On September 19, 2011 BOAC approved the Letter of Agreement between LAWA and LSD, and authorized the release of \$10 million to LSD for the first year of the sound insulation program. The funds were delivered to LSD on December 12, 2011.

#### **Inglewood Unified School District (IUSD)**

LAWA is working with IUSD and FAA to complete the PFC application for submittal to FAA requesting authorization to impose and use PFC funding for sound insulation of impacted schools in IUSD. The date of completion of the PFC application is uncertain at this time but it is anticipated that the application will be submitted to BOAC and FAA during CY 2012 or 2013.

#### **4.0.I MM-LU-5 Upgrade and Expand Noise Monitoring Program**

The LAX Master Plan MMRP states:

***“Upgrade and Expand Noise Monitoring Program.*** LAWA shall upgrade and expand its existing noise monitoring program in surrounding communities through new system procurement, noise monitor location, and equipment installation. Permanent or portable monitors shall be located in surrounding communities to record noise data 24 hours per day, seven days per week for correlation with FAA radar data to cross-reference noise episodes with flight patterns. The upgraded system will support LAWA and other jurisdictional ANMP’s when considering adjustments to airport noise mitigation boundaries.”

#### **Status→ Completed:**

On February 4, 2010, CalTrans approved LAWA’s Noise Monitoring Plan for LAX, ONT, and VNY airports that included the upgraded and expanded ANMMS. The system is fully functional at this time.

As part of the new system design, LAWA replaced all of the actual noise monitoring equipment located throughout the communities impacted by LAX operations. LAWA installed many new permanent noise monitors to better represent the actual noise levels in different areas, including areas well outside of the current 65 dB CNEL Noise Impact Area. A total of 39 noise monitors have been installed at LAX and all are operational. These monitors all are permanent sites, and will be collecting data continuously. Data from each site is downloaded nightly into the ANOMS system, and processed with the flight data to determine the noise levels associated with airport operations. The data then is used to calculate the annual noise levels represented in the State-required Quarterly Reports.

## 5.0 Surface Transportation (On-Airport)

### 5.0.A ST-2 Non-Peak CTA Deliveries

The LAX Master Plan MMRP states:

***“Non-Peak CTA Deliveries.*** *Deliveries to the CTA terminal reconstruction projects will be limited to non-peak traffic hours whenever possible.”*

**Status→ Ongoing:**

Deliveries that require lane closures in the CTA are reviewed by LAWA staff. Restrictions are imposed to limit these deliveries during certain times of the day or certain days of the week depending on anticipated traffic impacts.

### 5.0.B ST-7 Adequate GTC, ITC, and APM Design

The LAX Master Plan MMRP states:

***Adequate GTC, ITC, and APM Design.*** *LAWA will ensure that the surface transportation system and curbside for the GTC and ITC, commercial vehicle staging areas, and APM systems will be designed to adequately accommodate all forecast vehicular activity through 2015.*

**Status→ No action required at this time:**

The GTC, ITC, and the APM were not under design in 2011.

### 5.0.C ST-8 Limited Short-Term Lane Closures

The LAX Master Plan MMRP states:

***“Limited Short-Term Lane Closures.*** *When construction of any new ramps at the Century Boulevard/Sepulveda Boulevard interchange or construction for the GTC, ITC, or APM elevated structures require short-term lane closures, the lane closures will be for as brief a period as practical, with a goal that closures would principally be scheduled for non-peak periods.”*

**Status→ No action required at this time:**

No new ramps at the Century Boulevard/Sepulveda Boulevard interchange were constructed in 2011, and the GTC, ITC, and the APM were not under design in 2011.

### 5.0.D MM-ST-1 Require CTA Construction Vehicles to Use Designated Lanes

The LAX Master Plan MMRP states:

***“Require CTA Construction Vehicles to Use Designated Lanes.*** *Whenever feasible, construction vehicles shall be restricted to designated roadways or lanes of traffic on CTA roadways adjacent to the existing close-in parking, thus limiting the mix of construction vehicles and airport traffic.”*

**Status→ Ongoing:**

LAWA staff reviews and approves worksite traffic control plans for construction projects within the CTA. These worksite traffic control plans include routing of construction vehicles.

5.0.E MM-ST-2 Modify CTA Signage

The LAX Master Plan MMRP states:

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

**Status→ Ongoing:**

LAWA staff reviews and approves worksite traffic control plans for construction projects within the CTA. These worksite traffic control plans include the need for additional and modified signage.

5.0.F MM-ST-3 Develop Designated Shuttle Stops for Labor Buses and ITC-CTA Buses

The LAX Master Plan MMRP states:

***“Develop Designated Shuttle Stops for Labor Buses and ITC-CTA Buses.*** *Develop shuttle stops for labor buses (i.e. buses carrying construction workers) and the ITC-CTA shuttle buses at the CTA arrivals level. All ITC-CTA shuttle buses will be routed to these lower level (arrivals) curb areas. These buses will not circulate through the upper level (departures) curbside.”*

**Status→ No action required at this time:**

There were no LAX Master Plan projects that required labor or shuttle buses for construction workers in the CTA in 2011.

## **6.0 Surface Transportation (Off-Airport)**

6.0.A ST-9 Construction Deliveries

The LAX Master Plan MMRP states:

***“Construction Deliveries.*** *Construction deliveries requiring lane closures shall receive prior approval from the Construction Coordination Office. Notification of deliveries shall be made with sufficient time to allow for any modifications to approved traffic detour plans.”*

**Status→ Ongoing:**

There is ongoing coordination regarding deliveries for the Bradley West project, but lane closures are rarely required.

### 6.0.B ST-12 Designated Truck Delivery Hours

The LAX Master Plan MMRP states:

***“Designated Truck Delivery Hours.*** *Truck deliveries shall be encouraged to use night-time hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.”*

**Status→ Ongoing:**

All 2011 delivery schedules for the Bradley West Project were reviewed by the Construction Coordination office. In 2011, individually-reviewed waivers were occasionally granted for peak-hour deliveries on a case-by-case basis.

### 6.0.C ST-14 Construction Employee Shift Hours

The LAX Master Plan MMRP states:

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

**Status→ In Progress:**

All 2011 employee work schedules were approved as part of the Construction Traffic Management Plan for the Bradley West Project.

### 6.0.D ST-16 Designated Haul Routes

The LAX Master Plan MMRP states:

***“Designated Haul Routes.*** *Every effort will be made to ensure that haul routes are located away from sensitive noise receptors.”*

**Status→ In Progress:**

Each 2011 haul route was approved by LADBS. There is ongoing enforcement for the Bradley West Project.

### 6.0.E ST-17 Maintenance of Haul Routes

The LAX Master Plan MMRP states:

***“Maintenance of Haul Routes.*** *Haul routes on off-airport roadways will be maintained periodically and will comply with City of Los Angeles or other appropriate jurisdictional requirements for maintenance. Minor striping, lane configurations, and signal phasing modifications will be provided as needed.”*

**Status→ In Progress:**

There is ongoing enforcement for the Bradley West project. Field inspection report and maintenance logs were updated as required to document compliance.

#### 6.0.F ST-18 Construction Traffic Management Plan

The LAX Master Plan MMRP states:

***“Construction Traffic Management Plan.*** *A complete construction traffic plan will be developed to designate detour and/or haul routes, variable message and other sign locations, communication methods with airport passengers, construction deliveries, construction employee shift hours, construction employee parking locations and other relevant factors.”*

**Status→ Completed for the Bradley West project:**

The LAWA-approved Construction Traffic Management Plan for the Bradley West project continued to be used in 2011; requests for modifications to the Plan were reviewed and approved by LAWA prior to implementation.

#### 6.0.G ST-19 Closure Restrictions of Existing Roadways

The LAX Master Plan MMRP states:

***“Closure Restrictions of Existing Roadways.*** *Other than short time periods during nighttime construction, existing roadways will remain open 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.”*

**Status→ Ongoing:**

Existing roadways remain open unless a temporary detour route is available to serve the same function. As usual, permits were obtained for all 2011 street closures along with approval from LAWA’s Construction Coordination Office.

#### 6.0.H ST-20 Stockpile Locations

The LAX Master Plan MMRP states:

***“Stockpile Locations.*** *Stockpile locations will be confined to the eastern area of the airport vicinity, to the extent practical and feasible. After the eastern facilities are under construction in Alternative D, stockpile locations will be selected that are as close to I-405 and I-105 as possible, and can be accessed by construction vehicles with minimal disruption to adjacent streets. Multiple stockpile locations may be provided, as required.”*

**Status→ Ongoing:**

Multiple stockpile locations near work locations are being utilized and were approved by LAWA as part of the Construction Traffic Management Plan.

### 6.0.I ST-21 Construction Employee Parking Locations

The LAX Master Plan MMRP states:

***“Construction Employee Parking Locations.*** *During construction of the eastern airport facilities, employee parking locations will be selected that are as close to I-405 and I-105 as possible and can be accessed by employee vehicles with minimal disruption to adjacent streets. Shuttle buses will transport employees to construction sites. In addition, remote parking locations (of not less than 1 mile away from project construction activities) will be established for construction employees with shuttle service to the airport. An emergency return system will be established for employees that must leave unexpectedly.”*

**Status→ Not Applicable:**

This measure is not applicable at this reporting period because eastern airport facilities are not currently under construction.

### 6.0.J ST-22 Designated Truck Routes

The LAX Master Plan MMRP states in part:

***“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....”*

**Status→ In Progress:**

Each designated route on City streets was approved by LADOT’s Bureau of Traffic Management and LADBS. The primary route for the Bradley West Project is the I-105 Freeway to Imperial Highway to Pershing Drive. There is ongoing enforcement of the routes for the Bradley West Project.

### 6.0.K ST-23 Expanded LAX Gateway Improvements/Greening of Impacted Communities

The LAX Master Plan MMRP states in part:

***“Expanded LAX Gateway Improvements/Greening of Impacted Communities.*** *Gateway LAX improvements will be enabled through transportation improvements along Century Boulevard to the east as they are proposed to extend into low-income and minority communities in the City of Inglewood. LAWA anticipates making financial contribution, on a fair-share basis up to a maximum of ten million dollars, to various off-airport surface transportation related components.”*

**Status→ In Progress:**

In 2007 FAA indicated that some elements of the proposed uses of funds would not be allowed and that those uses that would be allowed could only cover a portion of the cost, requiring additional funding from the adjacent community. LAWA has not received final determination on this measure. As LAWA has not received a final determination on this measure, LAWA will issue a follow up letter to the FAA in 2012.

#### 6.0.L ST-24 Fair Share Contribution to Congestion Management Plan (CMP) Improvements

The LAX Master Plan MMRP states in part:

***“Fair Share Contribution to Congestion Management Plan (CMP) Improvements.*** *At the time of substantial completion of the LAX Master Plan, LAWA will contribute funding on a fair-share basis to future transportation improvements identified through the Congestion Management Plan (CMP) analysis completed for Alternative D.”*

**Status→ No action required at this time:**

As the LAX Master Plan was not substantially complete in 2011, no action was required.

#### 6.0.M MM-ST-6 Add New Traffic Lanes

The LAX Master Plan MMRP states in part:

***“Add New Traffic Lanes.*** *Traffic lanes shall be added to select intersections to the satisfaction of LADOT or other appropriate jurisdiction, sufficient to increase the capacity of the intersection without unnecessarily reducing sidewalk widths, removing on-street parking, or encroaching onto other land uses.”*

**Status→ In Progress:**

In 2011, construction was completed at the intersections of Imperial Highway and Main Street to install an additional westbound left-turn lane, and at Imperial Highway and Pershing Drive to install an additional westbound right-turn lane. These improvements were completed as construction traffic mitigations for the Bradley West Project.

#### 6.0.N MM-ST-7 Restripe Existing Facilities

The LAX Master Plan MMRP states in part:

***“Restripe Existing Facilities.*** *Existing traffic lanes shall be restriped to the satisfaction of LADOT or other appropriate jurisdiction, so that additional lane capacity will be provided without adding any new pavement to the intersection or road segment.”*

**Status→ No action required at this time:**

Per the LAX Master Plan traffic mitigation program, no action was required in 2011.

#### 6.0.O MM-ST-8 Add ATSAC, ATCS or Equivalent

The LAX Master Plan MMRP states in part:

***“Add ATSAC, ATCS or Equivalent.*** *Automated Traffic Surveillance and Control (ATSAC) or Adaptive Traffic Control System (ATCS) capability or equivalent shall be added to select intersections to the satisfaction of LADOT or other appropriate jurisdiction. The improved capability will result in a more effective traffic signal network.”*

**Status→ No action required at this time:**

Per the LAX Master Plan traffic mitigation program, no action was required in 2011.

#### 6.0.P MM-ST-10 Modify Signal Phasing

The LAX Master Plan MMRP states in part:

***“Modify Signal Phasing.*** *The traffic signal phasing of select intersections shall be modified to the satisfaction of LADOT or other appropriate jurisdiction, to allow more efficient use of the intersections, particularly those that will experience a notable change in traffic characteristics as a result of the project.”*

**Status→ No action required at this time:**

Per the LAX Master Plan traffic mitigation program, no action was required in 2011.

#### 6.0.Q MM-ST-12 Provide New Ramps Connecting I-105 to LAX Between Aviation Boulevard and La Cienega Boulevard

The LAX Master Plan MMRP states:

***“Provide New Ramps Connecting I-105 to LAX Between Aviation Boulevard and La Cienega Boulevard.*** *These ramps shall be provided to allow for direct access and egress to/from the ITC and GTC via I-105, between Aviation Boulevard and La Cienega Boulevard. A feasibility study is underway to determine the best design for these ramps.”*

**Status→ No action required at this time:**

No action was required in 2011 as the Intermodal Transportation Center (ITC) and the Ground Transportation Center (GTC) were not under design.

#### 6.0.R MM-ST-13 Create a New Interchange at I-405 and Lennox Boulevard

The LAX Master Plan MMRP states:

***“Create a New Interchange at I-405 and Lennox Boulevard.*** *This interchange shall provide grade-separated ramps from I-405 directly into airport property, and vice-versa. It shall be located approximately mid-way between Century Boulevard and Imperial Highway. A feasibility study is underway to determine the best design for the interchange. Should this proposed interchange not be constructed, suitable and alternate traffic mitigation measures shall be designed and implemented to the satisfaction of LADOT and the Bureau of Engineering.”*

**Status→ No action required at this time.**

Per the LAX Master Plan traffic mitigation program, no action was required in 2011.

#### 6.0.S MM-ST-14 Ground Transportation/Construction Coordination Office Outreach Program

The LAX Master Plan MMRP states:

***“Ground Transportation/Construction Coordination Office Outreach Program.*** *The construction coordination office proposed in Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, shall establish appropriate mechanisms to involve and coordinate with other major airport-*

area development projects to the extent feasible, to ensure that the cumulative impacts of construction in the airport area are coordinated and minimized.”

**Status→ No action required at this time:**

There was no action required in 2011 as there were no other major airport-area development projects under construction in 2011.

**6.0.T MM-ST-15 Provide Fair-Share Contributions to Transit Improvements**

The LAX Master Plan MMRP states in part:

**“Provide Fair-Share Contributions to Transit Improvements.** Provide fair-share contributions to benefit transit to and from LAX to the satisfaction of LADOT and/or other appropriate jurisdiction or agency.”

**Status→ No action required at this time.**

Per the LAX Master Plan traffic mitigation program, no action was required in 2011.

**6.0.U MM-ST-16 Provide Fair-Share Contribution to LA County's project to extend the Marina Expressway**

The LAX Master Plan MMRP states in part:

**“Provide Fair-Share Contribution to LA County's project to extend the Marina Expressway.** Provide fair-share contribution to Los Angeles County's project to extend the Marina Expressway (Route 90) to Admiralty Way or complete alternative off-site improvements at the following intersections: By 2015: Lincoln Boulevard & Washington Boulevard, Bali Way & Lincoln Boulevard, Fiji Way & Lincoln Boulevard, Lincoln Boulevard & Marina Expressway, Lincoln Boulevard & Maxella Avenue, Lincoln Boulevard & Mindanao Way...”

**Status→ No action required at this time:**

Per Los Angeles County, the Marina Expressway extension project is no longer programmed or funded. Per the LAX Master Plan traffic mitigation program, no action was required in 2011 for the alternative off-site improvements.

## **7.0 Relocation of Residences and Businesses**

**7.0.A RBR-1 Residential and Business Relocation Program**

The LAX Master Plan MMRP states in part:

**“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 (Relocation Plan) in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, state and local regulations, and FAA Advisory Circular 150/5100-17, prior to the commencement of acquisition.”

**Status→ Not Applicable:**

This measure is not applicable at this reporting period, and will not be triggered until Master Plan improvements requiring acquisition are advanced to more detailed planning.

**7.0.B MM-RBR-1 Phasing for Business Relocations**

The LAX Master Plan MMRP states in part:

***“Phasing for Business Relocations.** To maximize opportunities for airport/airport-dependent businesses and other businesses being acquired to relocate in proximity to their current sites, LAWA shall, to the maximum degree feasible, schedule acquisition phasing and/or development phasing to accommodate interested parties on airport property in a manner that would avoid delays to the overall construction and development schedule.”*

**Status→ Not Applicable:**

This measure is not applicable at this reporting period, and will not be triggered until Master Plan improvements requiring acquisition are advanced to more detailed planning.

**7.0.C MM-RBR-2 Relocation Opportunities through Aircraft Noise Mitigation Program**

The LAX Master Plan MMRP states in part:

***“Relocation Opportunities through Aircraft Noise Mitigation Program.** As a special project under the Aircraft Noise Mitigation Program (ANMP) for LAX, LAWA shall coordinate with the City of Inglewood and the County of Los Angeles to identify residential land uses that are subject to high levels of aircraft noise where land acquisition and conversion to compatible land uses is contemplated under applicable plans or is otherwise deemed appropriate.”*

**Status→ In Progress:**

LAWA fully supports the efforts of Inglewood and Los Angeles County in using land acquisition to achieve land use compatibility. However, it is up to those jurisdictions to identify properties for acquisition, and make the request for funding to LAWA via the Grant Implementation Plan (GIP) process. LAWA will process the GIP request and provide funding upon approval of BOAC. Inglewood has acquired incompatible land uses and converted them to airport compatible lands in the past, but has not submitted an acquisition GIP since January 2008. Los Angeles County is authorized to do land acquisition, but has not identified any properties for acquisition and has not submitted an acquisition GIP to LAWA.

**8.0 Environmental Justice**

LAWA has worked with local and contracting communities to develop programs that address the current and projected demands for qualified employees and contractors. Some of these programs are:

### 8.0.A EJ-1 Aviation Curriculum

The LAX Master Plan MMRP states:

***“Aviation Curriculum.*** *LAWA will work with local school districts to offer aviation-related curriculum at elementary schools, middle schools, high schools and colleges in affected communities near the Los Angeles International Airport. Potential pilot schools could include: Beulah Payne Elementary School, Lennox Middle School, Hillcrest Continuation School, Inglewood High School, Morningside High School, and Los Angeles Southwest College.”*

#### **Status→ Ongoing:**

LAWA continually is coordinating with the local school districts in developing aviation-related curriculum. In 2011, LAWA initiated a pilot program with Oroville Middle School in Westchester to offer an on-site Flight Simulation training program for their students.

### 8.0.B EJ-2 Aviation Academy

The LAX Master Plan MMRP states:

***“Aviation Academy.*** *LAWA will work with local school districts to provide comprehensive educational and trade training for aviation-related careers, targeting students in the affected communities to provide them with increased career opportunities.”*

#### **Status→ Ongoing:**

The Aviation Career Education (ACE) Academy is a free, week-long motivational program to provide students with a basic understanding of career opportunities within the aviation industry, as well as a general knowledge about LAX. This program is open to all Los Angeles area seventh-and eighth-grade students (between the ages of 12 and 14) and high school students (between the ages of 15 and 18) in communities surrounding LAX, including El Segundo, Hawthorne, Inglewood, Lennox, South Los Angeles, and Westchester/Playa del Rey. Program participants attend site visits and presentations by organizations such as the FAA, Boeing Aircraft, Federal Drug Enforcement Agency, Airlines, LSG Sky Chefs, and others. Approximately 45 local students participated in the program during the summer of 2011.

The Gateways Internship Program was launched by LAWA as a collaborative initiative of the Inglewood Unified School District, South Bay Private Industry Council, and the Los Angeles World Airports. The program was developed as one of several approaches to address the current and projected demand for qualified employees to fill positions at LAWA. This program provides paid and non-paid internships to local youth currently attending high school or college and has been expanded to include the Los Angeles Unified School District, Centinela Valley High School District, and the El Segundo Unified School District. The program consists of a high school and a college internship component. The goal of the program is to expose local high school and college students to career opportunities in the aviation industry. This is accomplished by providing on-the-job practical experience in the aviation field through education, training and mentoring programs and activities. For 2011, approximately 70 local students participated in LAWA’s internship program.

AIRCademics, "Passport to Art Program" is comprised of a 30-week curriculum offered at the Westchester YMCA, near LAX. This school-to-career enrichment program focuses on teaching the subjects of science, math, reasoning, and aviation through the completion of art projects. Participants, who are of middle school age, also learn about the history of flight while attending lectures and field trips. The final class project is the creation of a comic book about LAX. This program has been provided to 15 participants this year. LAWA is working on a new Request-For-Proposal and the program is pending on a new contract.

Job Shadow Day is an opportunity for students to learn about the aviation industry and its career possibilities while experiencing the workplace. LAWA hosts a group of students and introduce them to the airport and the career possibilities in aviation. Each student shadows an airport employee throughout the day to witness the individual's daily work activities. In 2011, LAWA coordinated with the Monroe Middle School Honor Society from the Inglewood Unified School District to host Job Shadow Day for approximately 25 students.

The "Flight Path Flyer" flight simulation program offers basic flying skills and operating techniques on flight simulators for six-Saturday sessions at the Flight Path Museum at LAX. This community-educational based program is free and offered three times per year aimed at novice students, ranging from middle school to senior citizens. Approximately 20 students participated in the Fall 2011 class.

LAWA is continually coordinating with local school districts to provide education and trade training programs for aviation-related careers. Positive feedback was received from participants surveyed in these LAX education outreach programs.

#### 8.0.C EJ-3 Job Outreach Center

The LAX Master Plan MMRP states in part:

***"Construction and Other LAX-Related Job Outreach - LAWA will create or utilize an existing resource center to assist historically underrepresented and at-risk local residents to find construction and other substantive jobs with LAWA and surrounding airport-related businesses through training and comprehensive outreach."***

#### **Status→ In Progress:**

LAWA Representatives attended 40 job fairs in 2011. Business and Job Resources Center (BJRC) personnel have also attended events in support of LAWA's other operating units within BJRC (Business Outreach, Gateways and International Trade). Due to excessive time demands and an increase in job creation activity, the BJRC does not send representatives to attend every job fair event it is invited to. LAWA's average job fair attendance ranges between 35 – 40 events per year.

LAWA's website [www.lawa.org/bjrc](http://www.lawa.org/bjrc) contains interactive applications for users to create and post resumes as well as apply for open positions and internships at LAWA. There is a link to the Los Angeles Business Assistance Virtual Network (BAVN) which provides information about upcoming procurement opportunities and job fairs. The Business Database will be the next innovation to be added to the site. It will allow prime

contractors to locate qualified MBE, WBE and DBE subcontractors who have previously worked on LAWA projects.

### **Gateways Internship Program**

The BJRC was able to place over 100 students through its three programs within various internships in LAWA Divisions this year. This increase in internship positions was accomplished primarily through funding partners included community and faith based organizations and colleges.

The majority of the student interns worked during the summer. However, this year a substantial number of college students were able to work year-round.

The BJRC conducted extensive outreach to students by attending Career Day events at colleges, posting internship job descriptions to the college career sites, and connecting with various college career centers and advisors. BJRC also disseminated internship information at more than 40 community Job Fairs. Additionally, the BJRC has continued its relationship with Cerritos College to place IT students with LAWA through its approved prerequisite course work to the program. The BJRC also continues its partnership with City of Los Angeles Public Works High School Internship Program.

In addition to students from local and out-of-state schools, the BJRD also attracts international students who wish to volunteer at LAX. BJRC hosted international students from Germany, Korea, Belgium and Japan.

### **Goals for Next Year**

Program goals for the upcoming year will be to increase the number of paid positions through partnerships with other organizations, and to increase the volunteer internship numbers by continuing our current relationships with the various colleges and community and faith based organizations. Also, BJRC plans to reach out to colleges that have not participated in the internship program and to increase international student participation, through the inception of the Mayor's International Internship Program.

### **Job Training Program**

Although the FAA has not approved a job training program (JTP) for LAWA and therefore no LAWA funds may be used for job training, LAWA leverages its relationships with various agencies funded to provide job training.

By leveraging relationships with over 16 JTP partners, LAWA, through its Business and Job Resources Division (BJRD) initiated its JTP in January 2007. LAWA was successfully able to partner with agencies funded through other means to provide job training opportunities to residents in the Project Impact Area. Currently, LAWA is working with agencies that provide an array of training, including computer skills, customer service, time management, bilingual skills, leadership skills, and other classes.

Based on surveys to employers, both internally and externally, new training courses, including Conversational Spanish for Concessions Division staff and Management training in the areas of communication, coaching, and interviewing took place last year. The conversational Spanish course officially started on September 8, 2010 with a class of about 20 LAWA students and continued throughout 2011, training more than 80 individuals with several classes throughout the year in beginning and intermediate Spanish.

Through the LAWA partnerships, many local residents have completed training in customer service, retail sales, auto mechanics and other disciplines.

The Mayor's Office has initiated discussions with Worksource Centers, the Los Angeles Community College District and surrounding LAWA businesses to conduct Hospitality Training for local residents. Plans are underway to create training modules that will result in career paths for residents within the hospitality industry. Upon the completion of training, these candidates will be well-positioned to compete for job opportunities at the hotels or with various Airport employers.

In addition, LAWA has partnered with Santa Monica College to offer at no cost to LAWA's employees opportunities for customized training in the following areas; Business Skills, Continuous Improvement and Professional Development, Computer and Technology Skills, Leadership and Team Building among other areas as well.

LAWA along with the LAX Coalition will continue to assess other job training opportunities and/or areas for collaboration with local training providers.

As of December 31, 2011

JTP Referrals: 637                      Completed Training 369\*

\*This number includes new employees as well as incumbent workers.

Training Goals for 2012

JTP Referrals: 700                      Completed Trainings: 400

**First Source Hiring Program**

The First Source Hiring Program (FSHP) is designed to provide residents from the communities immediately surrounding the airport and those most impacted by airport operations access to airport jobs. Those communities are a part of the Project Impact Area (PIA) and are comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood and Lennox.

The FSHP is now automated with an Applicant Tracking System (ATS) to quickly assist those LAWA employers in need of prescreened and qualified individuals for employment consideration. Over 12,000 people have registered and posted their resumes on the ATS.

The BJRC works closely with the Work Source, One-Stop Centers and, community and faith-based organizations that serve the airport area and beyond to register potential candidates on the ATS for positions with LAWA employers. FSHP is training the job developers at these organizations to prescreen and qualify their clients to be eligible for opportunities at LAWA as they arise. Their clients are able to post their resumes and apply for positions and those applications are reviewed by hiring managers in the terminals.

The BJRC also participates in the Mayor's monthly roundtable with the Port of Los Angeles and the Los Angeles Department of Water and Power to discuss and work through workforce development initiatives and on the Mayor's South Los Angeles Initiative. The purpose of this initiative is to ensure job opportunities for those residents

that experience disproportionate levels of poverty and unemployment compared to the general population, many of whom live in the designated Project Impact Area.

As new concessions contracts are being awarded, BJRC will be working with the prime contractors to coordinate Targeted Recruitment Events and bring prescreened candidates for interview consideration. The FSHP will host such an event for the Delaware North Corporation at the Proud Bird Restaurant in January 2012. They expect to interview over 300 applicants for food service positions at their many food and beverage locations within LAX.

During 2011, LAWA hosted targeted interviews for the following companies at the BJRC Offices:

Crews of California  
Duty Free Shops, North America  
G-2 Secure Staff  
Hudson News

Human Resources Managers from these companies utilized office space at BJRC to conduct interviews away from their confined space in the Terminals. These events yielded many new hires for their respective companies.

As of 6/30/2011 – Actual (the program operates on a Fiscal Year)

FSHP	Referrals:	6,141	Hires:	803
<u>Hiring Goals:</u>	Through June 2011		Through June 2012	
FSHP	Referrals:	790	Hires:	954

#### 8.0.D EJ-4 Community Mitigation Monitoring

The LAX Master Plan MMRP states:

***“Community Mitigation Monitoring.*** LAWA will include community participation in monitoring the implementation of the final Mitigation Measures and Master Plan Commitments in order to ensure agency compliance and accountability. The community participation will include a diverse group of residents, stakeholders, environmental specialists and community leaders that will convene on a regular basis.”

#### **Status→ In Progress:**

The LAX Master Plan Stakeholders Liaison Office (LAX MP SLO) was created as a component of the LAX Plan and the LAX Specific Plan by the Los Angeles City Council to ensure public participation in the implementation of the LAX Master Plan. The LAX MP SLO provides stakeholders with direct access to applicable information on the LAX Master Plan. In addition, the SLO continues to provide the communities with notifications that require public comment (Notice to Proceed, Executive Director’s Report, and LAX Plan Compliance Notifications).

## 9.0 Air Quality

### 9.0.A AQ-1 Air Quality Source Apportionment Study

The LAX Master Plan MMRP states in part:

***"Air Quality Source Apportionment Study.*** *LAWA will conduct an air quality source apportionment study to evaluate the contribution of on-airport aircraft emissions to off-airport air pollutant concentrations."*

#### **Status → In Progress:**

In 2009, the Study's Technical Working Group (TWG), comprised of representatives from U.S. Environmental Protection Agency (EPA), Federal Aviation Administration (FAA), California Air Resources Board, South Coast Air Quality Management District, State of California Office of Environmental Health Hazard Assessment, and representatives from community organizations, reviewed the draft documentation from the Phases I and II of the Study, and recommended that additional analysis of the sizeable Demonstration Project data and air sampling of taxiing aircraft be completed prior to developing the methodology, protocols, and work plan for Phase III. In 2010, LAWA developed an approach to move the Air Quality Study forward.

LAWA coordinated with the AQMD to conduct some taxiway air monitoring in April 2011. CDM Smith further analyzed the Demonstration Project data, and prepared the Phase III draft work plan in consultation with LAWA and a focused TWG team.

In August 2011, LAWA selected Tetra Tech, Inc. from its existing environmental on-call contractors to conduct Phase III with a budget not-to-exceed \$2.75 million (the contract used for Phases I and II had expired). Air monitoring was scheduled to begin in January 2012.

The Study approach includes a total of 17 monitoring sites, consisting of "fixed monitoring stations", "community satellite sites", and "saturation sampling sites."

Four fixed monitoring stations are located in the communities surrounding LAX:

- Community North - Westchester
- Community South - El Segundo
- Community East - Lennox
- Upwind Northwest Site - Playa del Rey

There also are four smaller satellite sites located in Hawthorne, Westchester, El Segundo, and west of LAX; and gradient sampling to provide measurements for a subset of air pollutants at nine additional sites throughout the areas surrounding the airport.

The air quality monitoring will occur over two seasons – the winter season, beginning in late January 2012, and the summer season, beginning in July 2012 - to account for typical seasonal changes in meteorology, airport operations, and the associated effects on pollutant transport and dispersion. The analysis of the monitoring and modeling

results will occur in the latter half of 2012 and report preparation is expected to be complete by Spring 2013.

#### 9.0.B AQ-2 School Air Filters

The LAX Master Plan MMRP states:

**"School Air Filters.** *LAWA will provide funding for air filtration system at qualifying public schools with air conditioning systems in place. The qualifying schools will be determined based upon review of the conclusions and recommendations of the Air Quality Source Apportionment Study to be conducted in Master Plan Commitment AQ-1."*

**Status→ Not required at this time:**

LAWA will initiate the process of identifying qualifying schools following completion of AQ-1, Air Quality and Source Apportionment Study, anticipated to be completed in 2013.

#### 9.0.C AQ-3 Mobile Health Research Lab

The LAX Master Plan MMRP states:

**"Mobile Health Research Lab.** *LAWA will explore the ability to fund/co-fund, to the extent feasible and permissible by federal and local regulations, or seek funding sources to support the goal of a Mobile Health Research Lab. The goal of the Mobile Health Research Lab will be to research and study, not diagnose or treat, upper respiratory and hearing impacts that may be directly related to the operation of LAX."*

**Status→ Not required at this time:**

It is expected that the Health Study will commence after the completion of AQ-1, Air Quality and Source Apportionment Study.

#### 9.0.D MM-AQ-1 LAX Master Plan – Mitigation Plan for Air Quality (Framework)

The LAX Master Plan MMRP states in part:

**"LAX Master Plan - Mitigation Plan for Air Quality -** *LAWA shall expand and revise the existing air quality mitigation programs at LAX through the development of an LAX Master Plan –Mitigation Plan for Air Quality (LAX MP-MPAQ)."*

**Status→ Completed:**

In 2005, LAWA completed a Mitigation Plan for Air Quality that established the overall framework for the implementation of specific measures for mitigating air quality impacts associated with the LAX Master Plan. The MM-AQ-1 Plan was adopted by the Board of Airport Commissioners in December 2005, in conjunction with approval of the SAIP (i.e., prior to implementation of the first project under the LAX Master Plan).

### 9.0.E MM-AQ-2 Construction-Related Mitigation Measures

The LAX Master Plan MMRP states in part:

***"Construction-Related Mitigation Measures - The required components of the construction-related air quality mitigation measures are itemized below [starting on page 4-725 of the FEIR]. These components include numerous specific actions to reduce emissions from on-road and non-road mobile sources and stationary engines. All of these measures must be in place prior to commencement of the first Master Plan construction project and must remain in place through build out of the Master Plan. An implementation plan will be developed which provides available details as to how each of the elements of this construction-related mitigation measures will be implemented and monitored."***

#### **Status→ Completed:**

LAWA completed a Construction-Related Mitigation Plan that set forth specific implementation requirements for the measures referenced in the FEIR. The MM-AQ-2 Plan was adopted by the Board of Airport Commissioners in December 2005, in conjunction with approval of the SAIP (i.e., prior to implementation of the first project under the LAX Master Plan) and were integrated into the CFTP construction specifications as appropriate. The execution of this implementation plan (i.e., the MM-AQ-2 Plan) will occur in conjunction with construction of each Master Plan project.

### 9.0.F MM-AQ-3 Transportation-Related Mitigation Measures

The LAX Master Plan MMRP states in part:

***"Transportation-Related Mitigation Measure - The primary feature of the transportation-related air quality mitigation measure is the development and construction of at least eight (8) additional sites with Flyaway service similar to the service provided by the Van Nuys Flyaway currently operated by LAWA. The intent of these FlyAway sites is to reduce the quantity of traffic going to and from LAX by providing regional locations where LAX employees and passengers can pick up an LAX-dedicated, clean-fueled bus that will transport them from a FlyAway closer to their home or office into LAX and back."***

#### **Status→ In Progress:**

LAWA operates four FlyAway routes between LAX and remote boarding locations at Van Nuys, Union Station, Westwood/UCLA and Irvine Station. All four routes demonstrate a consistent and mature level of passenger demand. In 2011, the network realized an average daily ridership of 3,790 passengers, reduced vehicle emissions by almost 24 tons per day, and removed 3,221 vehicles trips per day, travelling a combined total of 65,505 miles per day on roads approaching LAX.

Table 1 (next page) summarizes the FlyAway network mitigation data for years 2008 through 2011. Note that the ridership on the Westwood FlyAway was down in 2009, from 2008, but more emissions have been mitigated due to increased efficiency (service reductions resulted in fewer bus trips for about the same number of passengers).

<b>TABLE 1: CY 2007/2008/2009/2010/2011 LAX FlyAway Network Emissions Reduction Summary</b>				
Emissions reported include NOX, CO, ROG, PM10 and CO2				
<b>Van Nuys</b> (rebuilt 12/05)	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Ridership	987,705	880,024	807,485	835,346
Vehicle Trips Saved	839,491 (2,300/day)	747,969 (2,049/day)	686,315 (1,880/day)	709,995 (1,945/day)
Reduction in Miles Traveled	17.6 million miles	15.7 million miles	14.4 million miles	14.9 million miles
Emissions reduced	7,400.6 tons	6,455.5 tons	5,595.2 tons	6,033.5 tons
Auto operating cost savings	\$11.0 million	\$9.8 million	\$6.8 million	\$8.4 million
<b>Union Station</b> (opened 03/06)				
Ridership	433,216	409,491	413,975	434,096
Vehicle Trips Saved	368,208 (1,009/day)	348,043 (954/day)	351,854 (964/day)	368,956 (1,011/day)
Reduction in Miles Traveled	7.3 million miles	6.9 million miles	6.9 million miles	7.3 million miles
Emissions reduced	2,549.8 tons	2,322.2 tons	2,328.9 tons	2,496.3 tons
Auto operating cost savings	\$4.5 million	\$4.3 million	\$3.3 million	\$4.1 million
<b>Westwood</b> (opened 06/07)				
Ridership	125,288	115,048	107,136	97,337
Vehicle Trips Saved	106,487 (292/day)	97,784 (268/day)	91,059 (249/day)	82,731 (227/day)
Reduction in Miles Traveled	1.3 million miles	1.2 million miles	1.1 million miles	1.0 million miles
Emissions reduced	67.7 tons	211.9 tons	204 tons	187.4 tons
Auto operating cost savings	\$796,000	\$731,000	\$618 thousand	\$562 thousand
<b>Irvine</b> (opened 11/16/09)				
Ridership	--	1,500	13,604	16,504
Vehicle Trips Saved	--	1,275	11,563 (32/day)	14,027 (38/day)
Reduction in Miles Traveled	--	60 thousand miles	580 thousand miles	701 thousand miles
Emissions reduced	--	N/A	- 81 tons	- 20.3 tons
Auto operating cost savings	--	\$40,000	\$327 thousand	\$397 thousand
<b>Network Summary</b>				
Ridership	<b>1,546,209</b>	<b>1,406,063</b>	<b>1,342,200</b>	<b>1,383,283</b>
Vehicle Trips Saved	<b>1,314,186 (3,600/day)</b>	<b>1,195,295 (3,275/day)</b>	<b>1,140,791 (3,125/day)</b>	<b>1,175,709 (3,221/day)</b>
Reduction in Miles Traveled	<b>26.2 million miles</b>	<b>23.8 million miles</b>	<b>23.0 million miles</b>	<b>23.9 million miles</b>
Emissions reduced	<b>10,018 tons</b>	<b>8,990 tons</b>	<b>7,966 tons</b>	<b>8,697 tons</b>
Auto operating cost savings	<b>\$16.3 million</b>	<b>\$14.9 million</b>	<b>\$13.0 million</b>	<b>\$13.5 million</b>

The LAX Master Plan MMRP states in part:

**"Transportation-Related Mitigation Measure** – *Other feasible mitigation elements may be developed to ensure that the emission reductions for this transportation-related measure are achieved. These may include, for example"... Clean Vehicle Fleets measures such as:*

- *Promoting commercial vehicles/trucks/vans using terminal areas (LAX and regional intermodal) to install SULEZ/ZEV engines to reduce vehicle air emissions.*

**Status→ In Progress:**

LAWA's fleet is the largest Alternative Fuel Vehicle (AFV) airport fleet in the nation and includes over 590 AFVs. Currently, over 63% of LAW A's fleet vehicles and equipment at LAX are AFV's. Additionally, 100% of the LAX courtesy shuttle fleet is powered by natural gas. LAW A has designed and built a state-of-the-art, high-technology LNG/LCNG fueling station at LAX and acquired over \$5 million in grant funding to offset the differential cost of AFVs. LAW A has partnered with the Department of Water and Power to install 32 public access electric vehicle charging stations at LAX.

The AFV program has been recognized as one of the most successful airport AFV programs in the nation and a world-class model for airports and other agencies. Awards and recognition include:

- Clean Air Awards from the Coalition for Clean Air and South Coast Air Quality Management District
- Certificate of Distinguished Achievement from the California Natural Gas Vehicle Coalition
- Clean Cities Certificate for participation in the U.S. Department of Energy's Clean Cities Program
- Recognized by the U.S. Department of Energy Clean Cities Program as a "success story for airports"

#### 9.0.G MM-AQ-4 Operations-Related Mitigation Measures

The LAX Master Plan MMRP states in part:

***Operations-Related Mitigation Measure:** The primary component of the operations-related air quality mitigation measure consists of one airside item, the conversion of ground support equipment (GSE) to extremely low emission technology (such as electric power, fuel cells, or other future technological developments)."*

**Status→In Progress:**

LAWA is conducting preliminary work to issue a Request for Proposals (RFP) in 2012 to consultants to conduct a comprehensive e-GSE study.

## **10.0 Hydrology and Water Quality**

### 10.0.A HWQ-1 Conceptual Drainage Plan

The LAX Master Plan MMRP states in part:

***Conceptual Drainage Plan.** Once a Master Plan alternative is selected, and in conjunction with its design, LAWA will develop a conceptual drainage plan of the area within the boundaries of the Master Plan alternative (in accordance with FAA guidelines and to the satisfaction of the City of Los Angeles Department of Public Works, Bureau of Engineering). The purpose of the drainage plan will be to assess area-wide drainage flows as related to the Master Plan project area, and at a level of detail sufficient to identify the overall improvements necessary to provide adequate drainage capacity to prevent flooding."*

**Status→ Completed:**

LAWA completed a Conceptual Drainage Plan which was adopted in conjunction with the SAIP.

## 10.0.B MM-HWQ-1 Update Regional Drainage Facilities

The LAX Master Plan MMRP states:

***“Update Regional Drainage Facilities.*** *Regional drainage facilities should be upgraded, as necessary, in order to accommodate current and projected future flows within the watershed of each stormwater outfall resulting from cumulative development. This could include upgrading the existing outfalls, or building new ones. The responsibility for implementing this mitigation measure lies with the Los Angeles County Department of Public Works and/or the City of Los Angeles Department of Public Works, Bureau of Engineering. A portion of the increased costs for the upgraded flood control and drainage facilities would be paid by LAX tenants and users in accordance with the possessory interest tax laws and other legal assessments, consistent with federal airport revenue diversion laws and regulations and in compliance with state, county and city laws. The new or upgraded facilities should be designed in accordance with the drainage design standards of each agency.”*

### **Status→ In Progress:**

LAWA completed a Conceptual Drainage Plan which was adopted in conjunction with the SAIP. To determine if regional drainage facilities should be upgraded, LAWA will perform an analysis to evaluate the post-construction drainage conditions for ongoing and projects in the future.

## **11.0 Historical/Architectural and Archaeological/Cultural Resources**

### 11.0.A HR-1 Preservation of Historic Resources

The LAX Master Plan MMRP states:

***“Preservation of Historic Resources.*** *In implementing the LAX Plan and conducting ongoing 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 those resources in a manner consistent 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.”*

### **Status→ Ongoing:**

Any project at LAWA involving any historic resource is required to be reviewed by the Office of Historic Resources of the City of Los Angeles before any changes to the resource are approved. The historic preservation architect within this division of the Department of City Planning is charged with this responsibility.

### 11.0.B MM-HA-1 Historic American Buildings Survey (HABS) Document

The LAX Master Plan MMRP states in part:

***“Historic American Buildings Survey (HABS) Document.*** *For historic properties eligible at the federal, state or local levels that are proposed for demolition or partial demolition (i.e., the International Airport Industrial District), a Historic American Buildings Survey (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) shall be determined by the National Park Service (NPS).”*

**Status→ Not required at this time:**

No historic buildings were proposed for demolition or partial demolition during 2010. Therefore, this requirement has not been triggered.

### 11.0.C MM-HA-2 Historic Educational Materials

The LAX Master Plan MMRP states in part:

***Historic Educational Materials.*** *For the significant historic resources proposed for demolition or partial demolition, educational materials suitable for the general public, secondary school use, and/or aviation historians and enthusiasts shall be designed with the assistance of a qualified historic preservation professional and implemented by LAWA.*

**Status→ Not required at this time:**

No significant historic resources were proposed for demolition or partial demolition during 2011. Therefore, this requirement has not been triggered.

### 11.0.D MM-HA-4 Discovery

The LAX Master Plan MMRP states in part:

***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 of federal, state, and/or local significance found within the APE of the selected alternative.”*

**Status→ Completed:**

Subsequent to the adoption of this measure, LAWA completed an Archaeological Treatment Plan in June 2005. Master Plan projects comply with this plan and thus comply with this mitigation measure.

#### 11.0.E MM-HA-5 Monitoring

The LAX Master Plan MMRP states in part:

***“Monitoring.*** Any grading and excavation activities within LAX proper or the acquisition areas that have not been identified as containing redeposited fill material or having been previously disturbed shall be monitored by a qualified archaeologist.”

**Status→ In Progress:**

All LAWA Construction Approval Letters for projects which require grading and excavation include an established LAWA procedure to protect any archaeological finds and to contact a qualified archaeologist when such finds are encountered.

#### 11.0.F MM-HA-6 Excavation and Recovery

The LAX Master Plan MMRP states:

***“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.”

**Status→ Ongoing:**

This is an ongoing requirement in LAWA all bids and contracts.

#### 11.0.G MM-HA-7 Administration

The LAX Master Plan MMRP states:

***“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

#### 11.0.H MM-HA-8 Archaeological/Cultural Monitor Report

The LAX Master Plan MMRP states in part:

***“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 11.0.I MM-HA-9 Artifact Curation

The LAX Master Plan MMRP states:

**“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 11.0.J MM-HA-10 Archaeological Notification

The LAX Master Plan MMRP states:

**“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

## **12.0 Paleontological Resources**

### 12.0.A MM-PA-1 Paleontological Qualification and Treatment Plan

The LAX Master Plan MMRP states:

**“Paleontological Qualification and Treatment Plan.** A qualified paleontologist shall be retained by LAWA to develop an acceptable monitoring and fossil remains treatment plan (that is, a Paleontological Management Treatment Plan - PMTP) 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 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.”

**Status→ Completed:**

The Paleontological Management Treatment Plan was prepared and revised in December 2005.

### 12.0.B MM-PA-2 Paleontological Authorization

The LAX Master Plan MMRP states:

***“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.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 12.0.C MM-PA-3 Paleontological Monitoring Specifications

The LAX Master Plan MMRP states:

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

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 12.0.D MM-PA-4 Paleontological Resources Collection

The LAX Master Plan MMRP states:

***“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.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 12.0.E MM-PA-5 Fossil Preparation

The LAX Master Plan MMRP states:

***“Fossil Preparation.*** *Fossils shall be prepared to the point of identification and catalogued before they are donated to their final repository.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 12.0.F MM-PA-6 Fossil Donation

The LAX Master Plan MMRP states:

***“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

### 12.0.G MM-PA-7 Paleontological Reporting

The LAX Master Plan MMRP states:

***“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.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

## **13.0 Biotic Communities**

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

The LAX Master Plan MMRP states in part:

***“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 state-designated sensitive habitats within and adjacent to the Habitat Restoration Area are conserved and protected during construction, operation, and maintenance.”

**Status→ In Progress:**

LAWA is continuing to maintain and manage the El Segundo Blue (ESB) Butterfly Habitat Restoration Area.

LAWA’s ESB conservation program has three components:

- Restoration of the native sand dunes habitat
- Monitoring the progress of the program
- Public awareness

Because human activity negatively impacts the ESB and its food plant buckwheat, the area is protected and activities are controlled to meet the restoration goals. A major threat to both the ESB and buckwheat are the invasive plant species that dominate the habitat. LAWA’s Maintenance Services Division has a dedicated two-man crew that worked exclusively at the LAX dunes to perform regular trash and debris removal,

weeding, and other vegetation management activities. Numerous truckloads of trash (which continually blow onto the dunes from the adjacent Dockweiler State Beach), debris, and weeds are removed from the dunes regularly.

Detailed estimates of ESB population are performed annually through monitoring. The seasonal estimates indicate that ESB population increased about 8% in 2011 compared to the seasonal population estimates for 2010.

In 2011, as part of the public awareness efforts, LAWA conducted four ESB preserve tours for LAWA employees, and one tour for environmental/natural resource management stakeholders and academicians.

Regarding the ESB conservation measures related to the Bradley West Project, prior to initiation of construction for the Bradley West Project, tarps were added to existing fencing on the western side of Pershing Drive to reduce the transport of fugitive dust particles related to construction activities. During construction, soil stabilization, watering and/or other dust control measures are being implemented to reduce fugitive dust emissions.

A number of alternatives being evaluated in the Specific Plan Amendment Study (SPAS) would require relocation of the navigational aids within occupied habitat of the El Segundo blue butterfly, although this species is present within the navigational aids relocation area in very low densities due to the small quantity of host plants with low flowerhead density. MM-BC-1 would apply to any relocation of navigational aids that may be approved as part of the SPAS process.

### 13.0.B MM-BC-2 Conservation of Floral Resources: Lewis' Evening Primrose

The LAX Master Plan MMRP states in part:

***“Conservation of Floral Resources: Lewis' Evening Primrose.*** LAWA or its designee shall prepare and implement a plan to compensate for the loss of individuals of the sensitive Lewis' evening primrose, currently located at the westerly end of the north runway and within the Habitat Restoration Area. LAWA or its designee shall collect seed from those plants to be removed, and properly clean and store the collected seed until used. If possible, seeds shall be collected in multiple years to ensure an adequate seed supply for planting. A mitigation site of suitable habitat equal to the area of impact shall be delineated within areas of the Los Angeles/El Segundo Dunes as described in MM-BC-13.”

#### **Status→ Not required at this time:**

This measure is not applicable at this reporting period. There are no current LAX projects that would affect Lewis' evening primrose.

### 13.0.C MM-BC-3 Conservation of Floral Resources: Mature Tree Replacement

The LAX Master Plan MMRP states in part:

***“Conservation of Floral Resources: Mature Tree Replacement.*** LAWA or its designee shall prepare and implement a plan to compensate at a ratio of 2:1 for the loss of

*approximately 300 mature trees, which would occur as a result of implementation of the LAX Northside project.”*

**Status→ Not required at this time:**

This measure is not applicable at this reporting period. There are no current LAX projects that would result in the removal of mature trees.

Regarding the applicability of this measure to the Bradley West Project, please see MM-BC (BWP)-7 in the Project-Specific section of this report.

13.0.D MM-BC-8 Replacement of Habitat Units

The LAX Master Plan MMRP states in part:

*“**Replacement of Habitat Units.** LAWA or its designee shall undertake mitigation for the loss of habitat units resulting from implementation of Alternative D. Implementation of Alternative D would result in the loss of 45.43 habitat units. These habitat units shall be replaced at a 1:1 ratio within the Los Angeles/El Segundo Dunes.”*

**Status→ In Progress:**

This measure was partially fulfilled by MM-BC (SA)-1. Please see Section 25.0, Project-Specific Mitigations. It was estimated that 21 acres were required to offset the impact from the SAIP project, and 16.8 habitat units were restored in an offsite location in 2007.

In 2011, Environmental Services Division (ESD) initiated an analysis of LAX Master Plan Alternative D impacts to biotic communities to-date. ESD with the assistance of the LAWA Geographic Information System (GIS) unit plans to commence a mapping project in 2012 to estimate the total area of biotic communities identified in the Master Plan that were impacted by all Master Plan projects to date, as there was some overlap in construction staging areas for the three projects (SAIP, CFTP, and BWP). The estimated impact areas from the mapping project will be used to calculate any additional mitigation requirements beyond the 17.17 habitat units identified in the SAIP EIR.

13.0.E MM-BC-9 Conservation of Faunal Resources

The LAX Master Plan MMRP states in part:

*“**Conservation of Faunal Resources.** LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 1.34 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; 2.38 habitat units of occupied San Diego black-tailed jackrabbit habitat and for the loss of individuals of this species within the AOA; and 10.83 habitat units utilized by loggerhead shrike within the western airfield. LAWA shall minimize incidental take of active nests of loggerhead shrike through pre-construction surveys and construction avoidance measures. LAWA shall conduct pre-construction surveys for silvery legless lizard, San Diego horned lizard and burrowing owls and relocate individuals, if required.”*

**Status→ Completed for the Bradley West Project:**

As part of the Bradley West Project, LAWA conducted focused surveys for the Western Spadefoot Toad (*Spea [=Scaphiopus] hammondi*, a California Species of Special Concern, in March and April 2009. No Western Spadefoot were observed during the surveys. The removal of soil in the pool areas at LAX, as a condition of the Biological Opinion for the LAX Master Plan, resulted in modified site hydrology that no longer provides suitable breeding habitat for this species. For this reason, LAWA is not required to implement a relocation and monitoring plan for the Western Spadefoot.

See MM-BC (BWP)-4, MM-BC (BWP)-5, and MM-BC (BWP)-6 in Section 25.0, Project-Specific Mitigations, for information concerning other species addressed in this measure as they relate to the Bradley West Project.

**13.0.F MM- BC-13 Replacement of State-Designated Sensitive Habitats**

The LAX Master Plan MMRP states in part:

***“Replacement of State-Designated Sensitive Habitats.*** LAWA or its designee shall undertake mitigation for the loss of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area.”

**Status→ Not required at this time:**

There are no current LAX projects that would result in the loss of State-designated sensitive habitat within the Dunes Area.

**14.0 Endangered and Threatened Species****14.0.A MM-ET-1 Riverside Fairy Shrimp Habitat Restoration**

The LAX Master Plan MMRP states in part:

***“Riverside Fairy Shrimp Habitat Restoration.*** LAWA or its designee shall undertake mitigation for direct impacts to 0.04 acre (1,853 square feet) of degraded wetland habitat containing embedded cysts of Riverside fairy shrimp and potential indirect impacts to 1.26 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp.”

**Status→ In-Progress:**

On April 20, 2004, the United States Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) based on their review of Alternative D of the Draft EIS/EIR for LAWA Master Plan for LAX and its effects on the federally endangered Riverside Fairy Shrimp (*Streptocephalus woottoni*, “RFS”) in accordance with Section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The April 20, 2004 BO proposed several conservation measures (i.e. mitigation requirements) to offset direct and indirect impacts on the RFS. Subsequently, on April 8 2005, the USFWS issued a BO based on their review of the proposed operations and maintenance activities for LAX and its effects on the RFS. Details of all of the conservation measures are described in both BOs.

LAWA's Riverside Fairy Shrimp Habitat Restoration, identified as Mitigation Measure MM-ET-1 in the LAX Master Plan MMRP, is consistent with the BOs from the USFWS. This mitigation measure involves the creation of an RFS habitat at a site approved by the USFWS. LAWA currently is investigating a comparable site at Madrona Marsh in the City of Torrance (COT), California. To date, LAWA's mitigation activities include the following as it pertains to MM-ET-1:

Completion of the salvage and storage of RFS cyst-bearing soils at LAX in support of the April 20, 2004, BO for Alternative D and the April 8, 2005 BO for Operations and Maintenance. Conservation Measures 5 and 9 of the April 20, 2004 BO and Conservation Measure 8 of the April 8, 2005 BO identify the methods of salvage and storage of RFS cyst-bearing soils located at LAX.

On July 13, 2005 through August 8, 2005, LAWA salvaged and stored approximately 1800 cubic feet of RFS cyst-bearing soils formerly located at LAX SAIP site. The RFS cyst-bearing soils collected are being stored in a climate-controlled facility near LAX. The facility is secured and monitored by video cameras 24 hours a day. The Carlsbad Fish and Wildlife Office inspected and approved the RFS-cyst storage facilities on August 2, 2005. On December 2, 2005, the FAA transmitted a letter confirming the completion of the RFS cysts conservation work to the United States Fish & Wildlife Services.

LAWA and the FAA were pursuing alternate plans to create an RFS habitat on federal lands located at the former Marine Corps Air Station El Toro. In August 2006, the proposed RFS habitat creation site was the subject of discussions between the FAA and the Federal Bureau of Investigation (FBI) regarding the future compatibility of the site between FBI training and creation of a RFS habitat. After further investigation, in May 2008, it was determined that the El Toro site does not have suitable soil for developing RFS habitat.

With the concurrence of the USFWS, FAA and LAWA, LAWA is currently pursuing a mitigation site at the Madrona Marsh location in COT. Currently LAWA is awaiting COT concurrence with this.

Currently, LAWA is negotiating with COT the language of a Memorandum of Understanding (MOU) for use of Madrona Marsh for RFS Habitat Restoration activities. The Memorandum of Understanding will be finalized when the 100% design and plans have been completed (expected completion by December 2012.)

Studies of the Madrona Marsh site were initiated beginning in 2005, and a conceptual design was developed in 2009. All soil studies and surveys have been completed, and a hydrogeological model of the restoration site has been developed from the data. A revised conceptual design and restoration plan that meets the requirements of the mitigation measure and BOs was presented to FAA, LAWA, USFWS, California Department of Fish and Game (CDFG), and City of Torrance stakeholders, i.e., Friends of Madrona Marsh Preserve, in November and December 2011, and is currently undergoing review.

Next steps, which include finalization of the MOU, publication of a Mitigated Negative Declaration, regulatory agency review and permitting, finalization of the design and

preparation of a written RFS Habitat Creation, Enhancement, Maintenance and Monitoring Plan, are anticipated to be completed by December 2012. The construction phase RFP process is anticipated to begin at that time, followed by initiation of construction by summer 2013.

#### 14.0.B MM-ET-3 El Segundo Blue Butterfly Conservation: Dust Control

The LAX Master Plan MMRP states:

***“El Segundo Blue Butterfly Conservation: Dust Control.*** To reduce the transport of fugitive dust particles related to construction activities, soil stabilization, watering or other dust control measures, as feasible and appropriate, shall be implemented with a goal to reduce fugitive dust emissions by 90 to 95 percent during construction activities within 2,000 feet of the El Segundo Blue Butterfly Habitat Restoration Area. 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.”

**Status→ In Progress:**

See MM-BC-1 above.

#### 14.0.C MM-ET-4 El Segundo Blue Butterfly Conservation: Habitat Restoration

The LAX Master Plan MMRP states in part:

***“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 and associated service roads proposed under Master Plan Alternative D 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.”

**Status→ Not required at this time:**

No action is required at this time.

## **15.0 Energy Supply**

### 15.0.A E-1 Energy Conservation and Efficiency Program

The LAX Master Plan MMRP states in part:

***“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.”

**Status→ Ongoing:**

This requirement is addressed through LAWA's Sustainable Airport Planning, Design and Construction Guidelines and LAWA's Design and Construction Handbook, which establish broad design and construction guidelines for all infrastructure, terminal buildings, renovations, and other public facilities owned, operated or maintained by LAWA.

In addition, in May of 2011, LAWA conducted a High Performance Building Audit (HPBA) for Terminal 2 of the Los Angeles International Airport. The HPBA is a tool to identify and develop operational improvement initiatives for a facility, which may include energy conservation measures, operational enhancements, and utility consumption efficiencies. Improvement measures are also designed to increase occupant comfort and improve operational reliability.

The final recommendations report was completed in September 2011. Several upgrades have been planned for the existing systems and equipment. Lessons from the Terminal 2 HPBA will be applied to other existing terminals and will influence design standards for new terminal buildings.

**15.0.B E-2 Coordination with Utility Providers**

The LAX Master Plan MMRP states:

***“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 of providing equivalent or superior post-construction utility service.”*

**Status→ Ongoing:**

This requirement is implemented with each Master Plan development project prior to issuance of applicable permits.

In addition, LAWA has met with the City of Los Angeles Department of Water and Power to discuss long-term improvements to the electrical distribution system to provide an additional feed and redundant power source to LAX.

**15.0.C PU-1 Develop a Utility Relocation Program**

The LAX Master Plan MMRP states in part:

***“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.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

## 16.0 Light Emissions

### 16.0.A L1-2 Use of Non-Glare Generating Building Materials

The LAX Master Plan MMRP states:

***“Use of Non-Glare Generating Building Materials.*** *Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.”*

**Status→ Ongoing:**

This is an ongoing requirement in all bids and contracts.

### 16.0.B L1-3 Lighting Controls

The LAX Master Plan MMRP states in part:

***“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.”*

**Status→ Ongoing:**

LAWA is committed to integrating sustainable practices in the areas of Sustainable Design, Energy and Atmosphere, Materials and Resources, Water Efficiency, Transportation Resources, and Administrative Processes into operations and administrative processes throughout the organization. Accordingly, all lighting plans are approved by LAWA prior to issuance of any permits which include lighting to ensure that new lights or changes in lighting will not have an adverse effect on airport operations.

## 17.0 Solid Waste

### 17.0.A SW-1 Implement an Enhanced Recycling Program

The LAX Master Plan MMRP states in part:

***“Implement an Enhanced Recycling Program.*** *“LAWA will enhance their existing recycling program, based on successful programs at other airports and similar facilities.”*

**Status→ Completed and Ongoing:**

LAWA completed an enhanced recycling plan in 2011 for LAX. LAWA's Maintenance Services Division's Recycling and Source Reduction Program achieved a 67.26 % recycling rate at LAX for calendar year 2011. This slightly exceeds the previous year's rate. With this accomplishment, LAWA continues on the path toward meeting the Mayor's goal of 70% recycling by 2015.

Although all recycled materials remained at about the same levels, recycling of construction and demolition materials increased by 23%.

LAWA's goals for 2011 included:

- Offering tenants file clearing services
- Creating a pilot program to recycle organics
- Educating tenants on the new statewide, mandatory commercial recycling law set to go in effect July 2012

#### 17.0.B SW-2 Requirements for the Use of Recycled Materials During Construction

The LAX Master Plan MMRP states:

***“Requirements for the Use of Recycled Materials During Construction.*** *LAWA will require, where feasible, 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.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts. This is a requirement in the standard LAWA specifications on all construction projects.

#### 17.0.C SW-3 Requirements for the Recycling of Construction and Demolition Waste

The LAX Master Plan MMRP states:

***“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.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA bids and contracts.

#### 17.0.D MM-SW-1 Provide Landfill Capacity

The LAX Master Plan MMRP states:

***“Provide Landfill Capacity.*** *Additional landfill capacity in the Los Angeles region should be provided through the siting of new landfills, the expansion of existing landfills, or the extension of permits for existing facilities. As an alternative, or to augment regional landfill capacity, landfill capacity outside the region could be accessed by developing the necessary rail haul infrastructure. The responsibility for implementing this mitigation measure lies with state, county, and local solid waste planning authorities. The costs for implementing this mitigation measure will be passed on to LAX and other solid waste generators through increased solid waste disposal costs.”*

**Status→ No Action Required:**

LAWA has no jurisdiction regarding this mitigation measure which must be implemented by state, county, and local solid waste planning authorities.

**18.0 Construction Impacts****18.0.A C-1 Establishment of a Ground Transportation/Construction Coordination Office**

The LAX Master Plan MMRP states in part:

***“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.”*

**Status→ Ongoing:**

This measure was included in the CFTP and BWP contract specifications and is an ongoing requirement in all of LAWA's contract specifications.

**18.0.B C-2 Construction Personnel Airport Orientation**

The LAX Master Plan MMRP states:

***“Construction Personnel Airport Orientation.*** *All construction personnel will be required to attend an airport project-specific orientation (pre-construction meeting) that includes where to park, where staging areas are located, construction policies, etc.”*

**Status→ Ongoing:**

This measure was included in the CFTP and BWP contract specifications and is an ongoing requirement in all of LAWA's contract specifications.

**19.0 Design, Art, and Architecture Applications/Aesthetics****19.0.A DA-1 Provide and Maintain Airport Buffer Areas**

The LAX Master Plan MMRP states:

***“Provide and Maintain Airport Buffer Areas.*** *Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.”*

**Status→ No action required at this time:**

The LAX Specific Plan establishes buffer areas that are protected by the conditions described in Ordinance 159,526 and included in the LAX Specific Plan. The Specific

Plan establishes and maintains the buffers through requiring setbacks, landscaping, and other screening mechanisms along the southern and northern boundaries of the airport. This measure is not triggered until development of LAX Northside. The southern boundary of the airport is landscaped and includes buffers and setbacks.

#### 19.0.B DA-2 Update and Integrate Design Plans and Guidelines

The LAX Master Plan MMRP states in part:

***“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 Development Guidelines (April 1998; updated August 2002), and LAX Northside Design Plan and Development Guidelines (1989), including conditions addressing heights, setbacks and landscaping.”*

#### **Status→ In Progress:**

The Street Frontage and Landscape Plan was completed in March 2005. The Plan includes requirements to be incorporated into Master Plan projects. In addition to updating the above referenced plans, LAWA has developed and commenced implementing comprehensive Airport Sustainable Planning, Design and Construction Guidelines (LSAG) that apply to all LAWA projects, not only LAX Master Plan-related. The LSAG provides structure to LAWA’s sustainability commitment related to planning, design and construction on airport property through communicating expectations and implementing a transparent process.

**The Guidelines were updated in 2009 (dated February 2010), and additional revisions are planned for the LSAG in 2012 to incorporate changes to State and City of Los Angeles green building codes and requirements. Links to the documents are usually available on LAWA’s intranet at [http://www.lawa.aero/welcome\\_LAWA.aspx?id=1036](http://www.lawa.aero/welcome_LAWA.aspx?id=1036), but the link is temporarily disabled while revisions are underway.**

Implementation of these guidelines will meet green building specifications, and improve the use of recycling, alternative fuel sources, recycled water, water conservation, reduce energy requirements, and reduce the airport’s overall Greenhouse Gas emissions.

An update of the LAX Northside Plan and Development Guidelines has been initiated and is scheduled to be completed by January 2013.

#### 19.0.C DA-3 Undergrounding of Utility Lines

The LAX Master Plan MMRP states:

***“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.”*

**Status→ No action required at this time.**

There were no roadway projects in 2011 that triggered this requirement.

19.0.D MM-DA-1 Construction Fencing

The LAX Master Plan MMRP states:

**“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 treatment of the fencing to reduce temporary visual impacts.”

**Status→ Ongoing:**

This ongoing requirement is implemented with each construction project prior to issuance of building and grading permits.

## 20.0 Hazardous Materials

20.0.A HM-1 Ensure Continued Implementation of Existing Remediation Efforts

The LAX Master Plan MMRP states in part:

**“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.”

**Status→ In Progress:**

Comprehensive soil investigation is required prior to commencement of any design and construction activity at the airport. All required remediation efforts are carried out as needed.

20.0.B HM-2 Handling of Contaminated Materials Encountered During Construction

The LAX Master Plan MMRP states in part:

**“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.”

**Status→ Completed:**

A Hazardous Materials Management Plan was developed and revised in December 2005, and all LAWA contractors are required to comply with its provisions as they apply to the different projects.

**21.0 Water Use****21.0.A W-1 Maximize Use of Reclaimed Water**

The LAX Master Plan MMRP states:

***“Maximize Use of Reclaimed Water.** To the extent feasible, 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 and to minimize the potential for increased water use resulting from implementation of the LAX Master Plan. This commitment will also 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.”*

**Status→ In Progress:**

This is an ongoing requirement in all bids and contracts where reclaimed water is available and is implemented prior to approval of building and landscaping plans for qualifying projects.

**21.0.B W-2 Enhance Existing Water Conservation Program**

The LAX Master Plan MMRP states in part:

***“Enhance Existing Water Conservation Program.** “LAWA will enhance the existing Street Frontage and Landscape Plan for LAX to ensure the ongoing use of water conservation practices at LAX facilities. The intent of this program, to minimize the potential for increased water use due to implementation of the LAX Master Plan program, is also 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.”*

**Status→ In Progress:**

Currently, 35% of all landscaped areas at LAX are irrigated by reclaimed water. The number of landscaped areas served is limited to those areas accessible to the reclaimed water supply pipeline. Approximately 40.2 million gallons or 123 acre-feet of water is conserved each year through the use of reclaimed water. Additionally, much of the

irrigation system at LAX is monitored and controlled through a centralized computer irrigation control center. This system further conserves valuable water resources.

Buildings and passenger terminals at LAX feature low-flow devices on all toilets and sinks, with telephone numbers prominently posted in all restrooms so that people can notify maintenance staff if they encounter leaky faucets or other water problems. In addition, water used in on-airport car wash facilities is recycled.

LAWA also is working with DWP to determine the feasibility of bringing reclaimed water into the Central Terminal Area for use in the Central Utilities Plant cooling tower. The DWP estimates that this will reduce LAX's water usage by approximately 90 acre/ft per year.

## 22.0 Wastewater

### 22.0.A MM-WW-1 Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows

The LAX Master Plan MMRP states:

***“Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.*** Additional wastewater capacity within the City of Los Angeles should be provided by the expansion/upgrade of the City's wastewater treatment systems via a combination of improvements to address the projected wastewater [capacity] shortfall resulting from cumulative development. Such improvements could include increasing capacity at the Hyperion Treatment Plant (HTP), building new reclamation capacity upstream of HTP, conservation of potable water, and infiltration/inflow reduction. Implementation of this mitigation measure is the responsibility of the City of Los Angeles Department of Public Works, Bureau of Sanitation. Specific improvements will be identified in the City's IPWP and Wastewater Facilities Plan component of the City's Integrated Resources Plan. The cost for implementing this mitigation measure would be passed on to LAX and other wastewater generators through increased wastewater fees.”

#### **Status→ No Action Required:**

LAWA has no jurisdiction regarding this mitigation measure which will be implemented by the City of Los Angeles Department of Public Works, Bureau of Sanitation.

## 23.0 Fire Protection

### 23.0.A FP-1 LAFD Design Recommendations

The LAX Master Plan MMRP states in part:

***“LAFD Design Recommendations.*** During the design phase prior to initiating construction of a Master Plan component, LAWA will work with LAFD to prepare plans that contain the appropriate design features applicable to that component, such as those recommended by LAFD.”

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA design contracts.

**23.0.B PS-1 Fire and Police Facility Relocation Plan**

The LAX Master Plan MMRP states:

***“Fire and Police Facility Relocation Plan.*** 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, LAWAPD, the LAPD LAX Detail, and other airport staff. 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 requirement, siting, and design.”

**Status→ Completed on Fire Station 80:**

This requirement was not triggered in 2011, as there were no demolition construction, or circulation changes affecting relevant fire and police facilities.

**23.0.C PS-2 Fire and Police Facility Space and Siting Requirements**

The LAX Master Plan MMRP states:

***“Fire and Police Facility Space and Siting Requirements.*** During the early design phase for implementation of the Master Plan elements affecting on-airport fire and police facilities, LAWA and/or its contractors will consult with LAFD, LAWAPD, LAPD, and other agencies as appropriate, to evaluate and refine as necessary, program requirements for fire and police facilities. This coordination will ensure that final plans adequately support future facility needs, including space requirements, siting and design.”

**Status→ Completed on Fire Station 80:**

This requirement was not triggered for in 2011 for any on-airport fire and police facilities.

**24.0 Law Enforcement****24.0.A LE-1 Routine Evaluation of Manpower and Equipment Needs**

The LAX Master Plan MMRP states:

***“Routine Evaluation of Manpower and Equipment Needs.*** LAWA will ensure that LAWAPD and 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 LAWAPD and LAPD regarding pending development and construction and through LAWA review of status reports on law enforcement services at LAX.”

**Status→ Ongoing:**

LAWA Airport Police (LAWAPD) and LAPD LAX Detail continuously evaluate and monitor staffing levels and provide/request additional officers, support staff, and equipment for forecasted increases in activity and passengers at LAX. LAWAPD takes the lead on participating in the planning and development of construction activities and updates local law enforcement agencies on a regular basis and as needed.

24.0.B LE-2 Plan Review

***“Plan Review.** During the design phase of terminal and cargo facilities and other major airport development, the LAPD, LAWAPD, and other law enforcement agencies will be consulted to review plans so that, where possible, environmental contributors to criminal activity, such as poorly-lit areas, and unsafe design, are reduced.”*

**Status→ Ongoing:**

This is an ongoing requirement in all LAWA design contracts.

**25.0 Project-Specific Mitigations**25.1.A MM-HA (BWP)-1 Conformance with LAX Master Plan Archaeological Treatment Plan

The Bradley West Project MMRP states in part:

***“Conformance with LAX Master Plan Archaeological Treatment Plan.** Prior to initiation of grading and construction activities, LAWA will retain an on-site Cultural Resource Monitor (CRM), as defined in the LAX Master Plan MMRP ATP, who will determine if the proposed project area is subject to archaeological monitoring.”*

**BWP Status→ Ongoing:**

LAWA has retained an on-site CRM. This is an ongoing requirement until construction is completed.

25.1.B MM-PA (BWP)-1 Conformance with LAX Master Plan Paleontological Management Treatment Plan

The Bradley West Project MMRP states in part:

***“Conformance with LAX Master Plan Paleontological Management Treatment Plan.** Prior to the initiation of grading and construction activities, LAWA will retain a professional paleontologist, as defined in the Final LAX Master Plan MMRP PMTP, who will determine if the project site exhibits a high or low potential for subsurface resources.”*

**BWP Status→ Ongoing:**

LAWA has retained a professional paleontologist for the Bradley West Project site. This is an ongoing requirement until construction is completed.

### 25.1.C MM-PA (BWP)-2 Construction Personnel Briefing

The Bradley West Project MMRPs states:

**“Construction Personnel Briefing.** *In accordance with the PMTP, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossiliferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur.”*

**BWP Status→ Ongoing:**

This is an ongoing requirement until construction is completed.

### 25.1.D MM-ST (BWP)-1 Trip Reduction Measures

The Bradley West Project MMRP states:

**“Trip Reduction Measures.** *LAWA will implement the following trip reduction measures:*

*(a) Continue to promote and expand the FlyAway services in accordance with LAX Master Plan Mitigation Measure MM-AQ-3. It is anticipated that the continued expansion of the FlyAway service will promote a shift in mode-share away from the private vehicle mode which would reduce traffic volume using the CTA roadway system.*

*(b) Continue to promote the consolidation of shuttle services (e.g., hotel/motel, off-airport parking, rental cars) or programs to reduce trips associated with these modes.”*

**Status→ Ongoing:**

This is an ongoing requirement until construction is completed.

### 25.1.E MM-ST (BWP)-2 Improve the Intersection of Center Way and World Way South

The Bradley West Project MMRP states in part:

**“Improve the Intersection of Center Way and World Way South.** *Widen World Way South approach on the east side of the roadway to provide an additional right turn lane. The resulting configuration would be a single left turn lane, one through-left turn lane, two through lanes, and two right turn lanes.”*

**Status→ No action required at this time:**

No action is required until there is a 1.1% increase in Central Terminal Area (CTA) summer peak period traffic. LAWA continues to monitor traffic conditions to monitor traffic conditions at this intersection to determine whether the estimated impact has been “triggered.”

25.1.F MM-ST (BWP)-3 Widen World Way Across from TBIT

The Bradley West Project MMRP states:

***“Widen World Way Across from TBIT.*** *Widen the arrivals-level outer roadway across from TBIT by changing the left-most lane that currently terminates at Center Way to a through/left lane and extending this lane to World Way South.”*

**Status→ In Progress:**

This design of this project is 60% completed and will be constructed as part of the Central Utility Plant upgrade in 2012.

25.1.G MM-ST (BWP)-4 Modify the Intersection of Airport Boulevard and Manchester Avenue (Intersection #9)

The Bradley West Project MMRP states in part:

***“Modify the Intersection of Airport Boulevard and Manchester Avenue (Intersection #9).*** *The eastbound approach to the Airport Boulevard and Manchester Avenue intersection shall be restriped to provide one left-turn lane, two through lanes, and a through/right lane... Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.”*

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. No action is required until the number of international passengers at LAX reaches 19.7 million annual passengers.

25.1.H MM-ST (BWP)-5 Modify the Intersection of Arbor Vitae Street and Aviation Boulevard (Intersection of Imperial Highway and Sepulveda Boulevard (Intersection #71))

The Bradley West Project MMRP states in part:

***“Modify the Intersection of Arbor Vitae Street and Aviation Boulevard (Intersection #10).*** *The eastbound approach to the Arbor Vitae Street and Aviation Boulevard intersection shall be widened to provide one left-turn lane, two through lanes, and a right-turn lane....Los Angeles and City of Inglewood. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 20.7 million annual passengers.”*

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. No action is required until the number of international passengers at LAX reaches 20.7 million annual passengers.

25.1.I MM-ST (BWP)-6 Modify the Intersection of Imperial Highway and Sepulveda Boulevard (Intersection #71)

The Bradley West Project MMRP states in part:

***“Modify the Intersection of Imperial Highway and Sepulveda Boulevard (Intersection #71). The northbound approach to the Imperial Highway and Sepulveda Boulevard intersection shall be restriped to provide one left-turn lane, three through lanes, and two right-turn lanes. .... Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.”***

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. This measure will be triggered when the number of international passengers at LAX reaches 19.7 million annual passengers.

25.1.J MM-ST (BWP)-7 Modify the Intersection of La Cienega Boulevard and I-405 Ramps N/O Century Boulevard (Intersection #96)

The Bradley West Project MMRP states in part:

***“Modify the Intersection of La Cienega Boulevard and I-405 Ramps N/O Century Boulevard (Intersection #96). The southbound approach to the La Cienega Boulevard and I-405 Ramps N/O Century Boulevard intersection shall be widened to provide two left-turn lanes and two through lanes....***

*Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 20.7 million annual passengers.”*

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. This measure will be triggered when the number of international passengers at LAX reaches 20.7 million annual passengers.

25.1.K MM-ST (BWP)-8 Modify the Intersection of La Tijera Boulevard and Sepulveda Boulevard (Intersection #101)

The Bradley West Project MMRP states in part:

***“Modify the Intersection of La Tijera Boulevard and Sepulveda Boulevard (Intersection #101). The westbound approach to the La Tijera Boulevard and Sepulveda Boulevard intersection shall be restriped and the traffic signal modified to provide two left-turn lanes, one through lane, and a through/right lane. ... Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 18.7 million annual passengers.”***

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. This measure will be triggered when the number of international passengers at LAX reaches 18.7 million annual passengers.

**5.1.L MM-ST (BWP)-9 Modify the Intersection of Sepulveda Boulevard and 76th/77th Street (Intersection #136)**

The Bradley West Project MMRP states in part:

***“Modify the Intersection of Sepulveda Boulevard and 76th/77th Street (Intersection #136). The eastbound approach to the Sepulveda Boulevard and 76th/77th Street intersection shall be restriped to provide two left-turn lanes, a through/left-turn lane, and one right-turn lane.... Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.”***

**Status→ No action required at this time:**

In 2011, there were 16.7 million international annual passengers at LAX. This measure will be triggered when the number of international passengers at LAX reaches 19.7 million annual passengers.

**25.1.M MM-ST (BWP)-10 Modify the Intersection of Imperial Highway and Main Street (Intersection #68)**

The Bradley West Project MMRP states:

***“Modify the Intersection of Imperial Highway and Main Street (Intersection #68). Modify the median island on the east leg of the intersection to provide a second left turn lane. The resulting westbound configuration would be comprised of a dual left-turn lane and two through lanes.”***

**Status→ Completed:**

This project has been completed.

**25.1.N MM-ST (BWP)-11 Modify the Intersection of Imperial Highway and Pershing Drive (Intersection #69)**

The Bradley West Project MMRP states:

***“Modify the Intersection of Imperial Highway and Pershing Drive (Intersection #69). Widen the north side of the westbound approach of Imperial Highway to provide a second right-turn lane. The resulting westbound lane configuration would be comprised of one left turn lane, two through lanes, and two right turn lanes.”***

**Status→ Completed:**

This project has been completed.

25.1.O MM-ST (BWP)-12 Distribution of Contractor Employee Parking between the Northwest Construction Staging/Parking Area and the East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area

The Bradley West Project MMRP states in part:

***“Distribution of Contractor Employee Parking between the Northwest Construction Staging/Parking Area and the East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area.*** General parking for Bradley West Project contractor employees within the Northwest Construction Staging/Parking Area and within the East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area shall be distributed such that neither the northwest area (i.e., Northwest Construction Staging/Parking Area) or the east/southeast area (i.e., East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area) is assigned parking for more than 601 vehicles.”

**Status→ Ongoing:**

This is an ongoing requirement until construction is completed.

25.1.P MM-BC (BWP)-1 Conservation of Floral Resources: Southern Tarplant

The Bradley West Project MMRP states in part:

***“Conservation of Floral Resources: Southern Tarplant.*** LAWA or its designee shall prepare a special status plant mitigation program for the southern tarplant. The loss of the southern tarplant individuals shall be mitigated through seed collection and seeding into a suitable mitigation site within undeveloped property owned by LAWA or at a suitable off-site location, determined based on habitat, soil type, moisture levels, and other relevant conditions. One suitable off-site location is the Three Sisters Reserve located on the Palos Verdes Peninsula.”

**Status→ In Progress:**

The initial mitigation program that commenced in 2010 was unsuccessful, and was, therefore, followed by a remedial effort in 2011 in a different site on LAWA property. The remedial effort exceeded year 1 success criteria, as documented in Appendix E.

25.1.Q MM-BC (BWP)-2 Conservation of Floral Resources: Lewis' Evening Primrose

The Bradley West Project MMRP states in part:

***“Conservation of Floral Resources: Lewis' Evening Primrose.*** Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) on the project site, including construction staging areas, pre-construction focused surveys shall be conducted during the period of March through May by a qualified biologist to determine the presence or absence of Lewis' evening primrose.”

**Status→ Completed:**

Prior to the implementation of construction staging, laydown, and parking areas associated with the Bradley West Project, LAWA conducted focused plant surveys in

November 2008 for the Lewis' evening-primrose (*Camissonia lewisii*) and California spineflower (*Mucronea californica*). Neither species was observed during the focused surveys. No additional mitigation is required.

#### 25.1.R MM-BC (BWP)-3 Conservation of Floral Resources: California Spineflower

The Bradley West Project MMRP states in part:

***“Conservation of Floral Resources: California Spineflower.*** Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) on the project site, including construction staging areas, pre-construction focused surveys shall be conducted during the period of March through July by a qualified biologist to determine the presence or absence of California spineflower.”

**Status→Completed:**

See status of MM-BC (BWP)-2 above.

#### 25.1.S MM-BC (BWP)-4 Conservation of Faunal Resources: Burrowing Owl

The Bradley West Project MMRP states in part:

***“Conservation of Faunal Resources: Burrowing Owl.*** Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) within the Southeast Construction Staging/Parking Area (also known as the Continental City site), a survey for burrows by a qualified biologist will be conducted by walking through the suitable habitat within the site in accordance with CDFG-accepted protocols.”

**Status→ Completed:**

Prior to the implementation of construction staging, laydown, and parking areas associated with the Bradley West Project, LAWA conducted focused surveys in June 2009 for the western burrowing owl (*Athene cunicularia hypugea*). The burrowing owl was not observed during the spring surveys. However, based on previous reports of burrowing owl within the western portion of LAX, it was recommended that monthly surveys be conducted between September and January, during development of the West Construction Staging Area. These surveys were undertaken by the LAX USDA wildlife biologist under contract to LAWA. No burrowing owls were observed during these monthly surveys. No additional mitigation is required

#### 25.1.T MM-BC (BWP)-5 Conservation of Faunal Resources: Loggerhead Shrike

The Bradley West Project MMRP states in part:

***“Conservation of Faunal Resources: Loggerhead Shrike.*** If construction is scheduled to occur during the nesting season for the loggerhead shrike (March 15 to August 15), vegetation that will be impacted by the proposed project shall be removed outside the nesting season if feasible.”

**Status→ Completed:**

Vegetation that was required to be removed in order to develop construction staging and parking areas associated with the Bradley West Project was removed in 2010 prior to the nesting season for the loggerhead shrike.

**25.1.U MM-BC (BWP)-6 Conservation of Faunal Resources: San Diego Black-Tailed Jackrabbit**

The Bradley West Project MMRP states in part:

***“Conservation of Faunal Resources: San Diego Black-Tailed Jackrabbit.** Prior to the commencement of clearing operations or other activities involving significant soil disturbance at locations identified in Table 4.7-2 with suitable habitat, a survey shall be conducted to locate black-tailed jackrabbits within 100 feet of the outer extent of projected soil disturbance activities.”*

**Status→ Completed:**

Prior to clearing operations associated with development of construction staging and parking areas for the Bradley West Project, surveys for the presence of black-tailed jackrabbits were conducted by the LAX USDA wildlife biologist from September 2009 through February 2010 under contract to LAWA. No black-tailed jackrabbits were observed. No additional mitigation is required.

**25.1.V MM-BC (BWP)-7 Conservation of Floral Resources: Mature Tree Replacement**

The Bradley West Project MMRP states in part:

***“Conservation of Floral Resources: Mature Tree Replacement.** LAWA or its designee shall compensate at a ratio of 2:1 for the loss of mature trees, which would occur as a result of implementation of Northwest Construction Staging/Parking Area.”*

**Status→ In Progress:**

In conjunction with the implementation of the Bradley West Project’s Northwest Construction Staging Area, LAWA entered into letters of agreement with TreePeople, a non-profit environmental organization, and funds were provided to plant 66 native mature trees at Westchester Park and 66 trees at Morningside High School and the adjacent, student-run Empowerment Community Garden. The mature tree plantings were initiated in 2010 and will continue through June 2012. As of June 2011, 30 trees were planted at Westchester Park. The Morningside High School/Empowerment Community Garden project was expanded to encompass a large-scale greening plan in the City of Inglewood, in conjunction with the non-profit Social Justice Learning Institute. As of June 2011, 41 trees had been planted in Inglewood, including at the Empowerment Community Garden, Warren Lane Elementary School (a feeder school to Morningside High School), and at Queen Park.

### 25.1.W MM-BC (BWP)-8 Conservation of Faunal Resources: Nesting Birds/Raptors

The Bradley West Project MMRP states in part:

***“Conservation of Faunal Resources: Nesting Birds/Raptors.*** *To comply with the Migratory Bird Treaty Act, for those areas of the project site that are not actively maintained and have a potential for nesting birds/raptors, if construction is scheduled to occur during the nesting season for birds/raptors (generally February 1 to June 30 for raptors and March 15 to August 15 for nesting birds), vegetation that will be impacted by the proposed project shall be removed outside the nesting season if feasible.”*

**Status→Completed:**

Prior to the removal of trees associated with implementation of the North Construction Staging Area for the Bradley West Project, LAWA conducted surveys for nesting raptors in April 2010. No birds exhibiting breeding behavior or active nests were observed during the survey. Moreover, according to the LAX USDA wildlife biologist, the West Construction Staging Area does not contain suitable habitat for raptors to nest and no nesting raptors have been observed in this area in the past 8 years. As a result, surveys for nesting raptors were not conducted for this construction staging area prior to the removal of vegetation. No additional mitigation is required.

### 25.1.X MM-ET (BWP)-1 Mitigation for Riverside Fairy Shrimp

The Bradley West Project MMRP states in part:

***“Mitigation for Riverside Fairy Shrimp.*** *If Riverside fairy shrimp are found to be located on-site, LAWA shall coordinate with FAA and USFWS to initiate consultation under the federal Endangered Species Act and prepare a Mitigation Plan in consultation with the USFWS.”*

**Status→Completed:**

Prior to the implementation of the Southeast Construction Staging/Parking Area associated with the Bradley West Project, two wet season surveys and one focused dry season survey for Riverside fairy shrimp (*Streptocephalus woottoni*) were conducted in 2009 and 2010 in accordance with USFWS protocol guidelines. No federally-listed Riverside fairy shrimp were observed within the survey area.

### 25.1.Y MM-BC (CFTP)-1 Conservation of Floral Resources: Southern Tarplant

The Crossfield Taxiway Project MMRP states in part:

***“Conservation of Floral Resources: Southern Tarplant.*** *LAWA or its designee shall prepare a special status plant mitigation program. The loss of the southern tarplant individuals shall be mitigated through seed collection and seeding into a suitable mitigation site within undeveloped property owned by LAWA, determined based on habitat, soil type, moisture levels, and other relevant conditions.”*

**Status→ In Progress:**

The initial mitigation program that commenced in 2010 was unsuccessful. Remedial mitigation commenced in fall of 2010 for MM-BC (CFTP)-1 and MM-BC (BWP)-1 at a

new mitigation site in the southwest corner of the airport near the water retention basins along Pershing Street. The new site is located east of the previous site, and contains clayey soils and existing southern tarplants. The mitigation plan was revised to reflect the new site. Fresh seeds were collected from existing plants at the Continental City site. The newly collected seeds and the contingency seeds previously collected in the 2010 effort were used to propagate the new southern tarplant individuals directly at the new mitigation site. Additional seed was also purchased and propagated at the site to ensure success. The site (1a) where pre-soaked contingency seed was propagated yielded over 10,000 flowering and seed-setting individual plants. All plants counted had flowered and either had or would set seed.

Monitoring completed after year 1 showed that the mitigation project has far exceeded the requirement of approximately 200 plants flowering and setting seed for the first year with a count of about 10,000 individual flowering plants. Quarterly monitoring and annual reporting will continue as required. If tarplant abundance continues to exceed the performance requirements to a similar degree through Year 3 despite minimal maintenance, monitoring will be discontinued following the Year 3 quantitative monitoring visit. See Appendix E for the Southern Tarplant First Annual Monitoring Report.

#### 25.1.Z MM-BC (SA)-1 Replacement of Habitat Units Associated with the SAIP (Disturbed/Bare Ground and Non-Native Grassland/Ruderal Areas)

The SAIP MMRP states in part:

***“Replacement of Habitat Units Associated with the South Airfield Improvement Project.*** LAWA or its designee shall undertake mitigation for the loss of 17.2 habitat units resulting from implementation of the SAIP. These habitat units shall be replaced at a 1:1 ratio within the FAA-owned habitat preserve at the former Marine Corps Air Station El Toro (El Toro site), or other appropriate site.”

#### **Status→ In Progress:**

On August 6, 2007, the BOAC approved an MOU between LAWA and the Palos Verdes Peninsula Land Conservancy (PVPLC) for the development of approximately 21 acres of coastal sage/needle grass habitat units in complete fulfillment of LAWA's MM-BC (SA)-1 commitment and partial fulfillment of LAWA's MM-BC-8 commitment. This mitigation plan was approved by both the USFWS and CDFG. The new location near the coast, unlike the previously proposed location at El Toro, is better suited as a replacement site. LAWA funded PVPLC in the amount of \$610,938 for this conservation work to be performed over a three year period. Each year, PVPLC will provide an annual progress report documenting the result of their effort.

In November 2008, the first year of the three year mitigation was completed. PVPLV selected the “3 Sisters Reserve Habitat” as the restoration site. A site restoration plan, containing proposed plant selection and the specifics of the restoration work, was submitted to LAWA for review and approval. On November 20, 2008, LAWA staff inspected the “3 Sisters Reserve Habitat” and approved the site selection. Field work began in 2009.

Restoration of each specified habitat requires site preparation. All areas to be restored were dominated by exotic species. As part of the site preparation, in January 2009, the PVPLC contracted with a herder to graze 300 goats on the site, removing non-native weeds and trees, initiating the site preparation needed for irrigation installation and native planting and seeding. After three weeks of grazing, the goats were removed and PVPLC field staff took over, removing and chipping over 500 non-native acacia trees. PVPLC staff continued with site preparation throughout the spring and summer, targeting non-native weeds and removing thatch to increase the survival success of the native plants and seeds to be planted. In August, Nakae & Associates was contracted to install irrigation in the 13-acre coastal sage scrub habitat zone and the irrigation installation was completed in October. The planting and seeding began in October 2009. In addition, 450 coastal sage scrub container plants were propagated in their native plant nursery where seedlings were transplanted to larger containers to mature in size before planting.

Approximately 7,930 native container plants and 778 pounds of native seed were planted between late October and December 31, 2009. All of the container plants and native seed were collected on lands managed by the PVPLC and propagated at the PVPLC's native plant nursery in San Pedro in 2008 and 2009. The restoration site was completed in January 2010 with the planting of the 450 coastal sage scrub plants.

PVPLC staff continued with weed control efforts following planting, systematically moving through the entire restoration area several times over the course of the year, removing weeds mechanically, by hand, or with herbicide. Staff also maintained the temporary irrigation system.

PVPLC staff has monitored the progress of the project through vegetation transect sampling and bird surveys. Year 1 monitoring occurred in May 2010. The 2010 annual status report stated that coastal sage scrub container plants have become established and are growing, but that native plant coverage is sparse. PVPLC planned to increase native plant coverage in this habitat by planting more container plants in Fall 2011.

The report stated that 2010 vegetation transects in the grassland restoration area show low germination. Following an additional visual inspection of the restoration area 2011, PVPLC staff have informally reported that germination has since increased. Still, PVPLC planned to reseed in Fall 2011 to increase the amount of native seeds at the restoration site.

PVPLC staff will continue to monitor the progress of the project through vegetation transect sampling and bird surveys annually through the third year after installation.

An additional report with updated survey results is expected in 2012.

## 26.0 Awards and Achievements

### 26.1 Award of Excellence for Use of Environmentally Friendly Concrete

In 2010, LAWA received the Excellence in Concrete Award presented annually by the Southern California chapter of the American Concrete Institute in recognition of “excellence in environmental usage of concrete on the LAX Crossfield Taxiway Project.” As part of the project, a 1,600 space parking lot was constructed to accommodate airline tenants who were being displaced by the new taxiway.

The project team incorporated the use of pervious concrete into construction of the parking lot. Pervious concrete is a special type of concrete with a very high degree of porosity. This concrete provides an environmentally friendly surface that allows stormwater to flow through it, thereby reducing runoff from the parking lot. The parking lot is the largest pervious concrete project in California.

### 26.2 Alternative Fuels

LAWA’s Alternative Fuels Program began in 1993. The program is based on LAWA’s commitment to take a leadership role in clean air efforts through the use of vehicles and equipment powered by alternative fuels. Alternative fuels are defined as zero to low-emission fuel, other than traditional fossil fuels such as gasoline and diesel.

Alternative fuels currently in use by LAWA include:

- Liquefied natural gas (LNG)
- Compressed natural gas (CNG)
- Electricity
- Solar electricity
- Propane

### Policy

In April 1999, by Resolution 20609, the Board of Airport Commissioners formally adopted the Los Angeles World Airports Alternative Fuels Vehicle Program. Recognizing the environmental benefits to be derived from alternative fuel vehicles, this policy states, in part, that “Los Angeles World Airports is committed to identifying and replacing existing fossil fuel vehicles and equipment with alternative fuel vehicles and equipment, including vehicles powered by compressed natural gas, liquefied natural gas, electricity, and other clean burning alternative fuels.”

### Program Elements

- Replace existing fossil fuel powered vehicles and equipment with alternative fuel vehicles (AFVs) whenever possible during the scheduled vehicle and equipment replacement program.
- Investigate the cleanest fuels available for all applications.
- Develop and maintain fueling infrastructure with the goal of minimizing fuel cost and maximizing the use of AFVs in the fleet.
- Continue the research, training, and communication necessary to insure a successful program and serve as a resource for companies and other

agencies interested in understanding the principles and benefits of using alternative fuels.

#### Current Fleet at LAX

- 193 CNG sedans
- 259 CNG buses and light/medium/heavy trucks
- 56 electric trucks, forklifts, man-lifts
- 22 LNG buses and heavy trucks
- 39 propane trucks, forklifts
- 28 Hybrid sedans, SUV's, trucks

Total: 597 units, or 63% of fleet

#### Accomplishments

- Over 63% of LAWA's fleet vehicles and equipment at LAX are AFVs. Fleet includes over 597 AFVs.
- 100% of the LAX courtesy shuttle fleet is powered by natural gas.
- Designed and built a state-of-the-art, high-technology LNG/LCNG fueling station at LAX.
- Acquired over \$5 million in grant funding to offset the differential cost of AFVs.
- Partnered with the Department of Water and Power to install 32 public access electric vehicle charging stations at LAX.
- The AFV program has been recognized as one of the most successful airport AFV programs in the nation and a world-class model for airports and other agencies. Awards and recognition include:
  - Clean Air Awards from the Coalition for Clean Air and South Coast Air Quality Management District
  - Certificate of Distinguished Achievement from the California Natural Gas Vehicle Coalition
  - Clean Cities Certificate for participation in the U.S. Department of Energy's Clean Cities Program
  - Recognized by the U.S. Department of Energy Clean Cities Program as a "success story for airports"

## **26.2 Rideshare**

Each year, LAWA's Rideshare Program saves over 8 million vehicle miles, over 600,000 gallons of gasoline, over 8 billion pounds of air pollutants, thousands of dollars in insurance and vehicle depreciation costs, and countless hours spent driving on Southern California's over-burdened streets and freeways. LAWA's multi-faceted Rideshare Program includes 66 vanpools, 88 carpool program participants, 320 free monthly transit passes, and numerous marketing and advocacy activities to recruit and retain program participants. Currently, about 26% of LAWA's employees are participating in the Rideshare Program, saving over 1,000 vehicle trips to LAWA facilities every day.

In 2010, LAWA won its 15th consecutive Rideshare Diamond Award for "Innovative Rideshare Strategy" from L.A. County Metro, Orange County Transportation Authority

(OCTA), and the Ventura County Transportation Commission (VCTC). This award was for assisting employees who were redeployed from Los Angeles/Ontario Airport (LA/ONT) to establish new, alternative commute modes for their longer trips, including starting 3 new vanpools and utilizing one 8-passenger van to accommodate 17 employees on 3 different shifts at ONT Safety Base.

In 2011, LAWA also met the required Average Vehicle Ridership (AVR) Target under SCAQMD Rule 2202 for the 7th consecutive year.

## **27.0 Summary**

To date, all applicable mitigation measures adopted for the LAX Master Plan MMRP are in the process of being implemented or have been completed. LAWA complied with some mitigation measures by developing program plans, and satisfied others incorporating them into LAX Master Plan project designs and/or construction specifications. The majority of the “Stand-Alone” mitigation plans has been completed or are in-progress. All applicable mitigation measures triggered by the Taxiway S Project and BWP are being implemented. LAWA will continue to monitor and report annually on the progress of the LAX Master Plan MMRP as implementation of the program progresses.

## **APPENDIX A**

### **LAX MASTER PLAN MMRP AS ADOPTED SEPTEMBER 2004**

#### **REFERENCE**

**LAWA Website:**

**[http://www.ourlax.org/pub\\_MMRP.aspx](http://www.ourlax.org/pub_MMRP.aspx)**

**for a copy of the document**

## **APPENDIX B**

### **LAX MASTER PLAN PROJECT-SPECIFIC MEASURES (SAIP-SPECIFIC MEASURES, CFTP-SPECIFIC MEASURES, AND BWP-SPECIFIC MEASURES)**

## **APPENDIX B**

### **LAX MASTER PLAN PROJECT-SPECIFIC MEASURES (SAIP-SPECIFIC MEASURES, CFTP-SPECIFIC MEASURES, AND BWP-SPECIFIC MEASURES)**

**SOUTH AIRFIELD IMPROVEMENT PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

Master Plan Commitments/ Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<i>Biotic Communities</i>					
<b>MM-BC (SA)-1</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Replacement of Habitat Units Associated with the South Airfield Improvement Project.</b> LAWA or its designee shall undertake mitigation for the loss of 17.2 habitat units resulting from implementation of the SAIP. These habitat units shall be replaced at a 1:1 ratio within the FAA owned habitat preserve at the former Marine Corps Air Station El Toro (El Toro site), or other appropriate site.	Impacts on Disturbed/Bare Ground and Non-Native Grassland/Ruderal areas	Preparation of Replacement Plan prior to or concurrent with commissioning of relocated Runway 7R-25L	As per Replacement Plan for Habitat Units	Preparation of Replacement Plan for Habitat Units; Periodic Monitoring Report
<b>MM-BC (SA)-2</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Conservation of Faunal Resources Associated with the South Airfield Improvement Project.</b> Directed surveys for the San Diego black-tailed jackrabbit and the loggerhead shrike shall be undertaken by a qualified wildlife biologist at least 14 days before construction activities. LAWA or its designee shall relocate any observed San Diego black-tailed jackrabbit individuals currently inhabiting the SAIP project areas. Relocation efforts shall be coordinated with CDFG.	Impacts on San Diego black-tailed jackrabbit habitat and loggerhead shrike habitat	Initiated and completed prior to or concurrent with commissioning of relocated Runway 7R-25L	As per Replacement Plan for Habitat Units	Preparation of Replacement Plan for Habitat Units; Periodic Monitoring Report

<sup>1</sup> The South Airfield Improvement Project is subject to many of the LAX Master Plan Commitments and Mitigation Measures adopted in conjunction with the LAX Master Plan Final EIR. See User Guide located at front of the MMRP.

**CROSSFIELD TAXIWAY PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

CFTP-Specific Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<b>Historical/Architectural and Archaeological/Cultural Resources</b>					
<b>MM-HA (CFTP)-1</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Conformance with LAX Master Plan Archaeological Treatment Plan:</b> Prior to initiation of grading and construction activities, LAWA will retain an on-site Cultural Resource Monitor (CRM), as defined in the LAX Master Plan MMRP ATP, who will determine if the proposed project area is subject to archaeological monitoring. As defined in the ATP, areas are not subject to archaeological monitoring if they contain redeposited fill or have previously been disturbed. The CRM will compare the known depth of redeposited fill or disturbance to the depth of planned grading activities, based on a review of construction plans. If the CRM determines that the proposed project site is subject to archaeological monitoring, a qualified archaeologist (an archaeologist who satisfies the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) shall be retained by LAWA to inspect excavation and grading activities that occur within native material. The extent and frequency of inspection shall be defined based on consultation with the archaeologist. Following initial inspection of excavation materials, the archaeologist may adjust inspection protocols as work proceeds.	Potential to unexpectedly encounter and impact subsurface archaeological resources, including Native American remains, during grading and excavation associated with construction of the CFTP	Prior to initiation of grading and/or excavation activities associated with the construction of the CFTP	As per the Cultural Resource Monitor determining proposed project area being subject to archaeological monitoring, the extent and frequency of inspection shall be defined based on consultation with the archeologist	Conformance with LAX Master Plan Archaeological Treatment Plan

<sup>1</sup> The Crossfield Taxiway Project is subject to many of the LAX Master Plan Commitments and Mitigation Measures adoption in conjunction with the LAX Master Plan Final EIR. See User Guide at front of MMRP.

**CROSSFIELD TAXIWAY PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

CFTP-Specific Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<b>Paleontological Resources</b>					
<b>MM-PA (CFTP)-1</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Conformance with LAX Master Plan Paleontological Management Treatment Plan:</b> Prior to the initiation of grading and construction activities, LAWA will retain a professional paleontologist, as defined in the Final LAX Master Plan MMRP PMTP, who will determine if the project site exhibits a high or low potential for subsurface resources. If the project site is determined to exhibit a high potential for subsurface resources, paleontological monitoring will be conducted in accordance with the procedures stipulated in the PMTP. If the project site is determined to exhibit a low potential for subsurface deposits, excavation need not be monitored as per the PMTP. In the event that paleontological resources are discovered, the procedures outlined in the PMTP for the identification of resources will be followed.	Potential to unexpectedly encounter and impact subsurface paleontological resources during grading and excavation associated with construction of the CFTP	Prior to initiation of grading and/or excavation activities associated with the construction of the CFTP	As per the professional paleontologist determining proposed project area being subject to paleontological monitoring, the extent and frequency of inspection shall be defined based on procedures outlined in the PMTP	Conformance with LAX Master Plan Paleontological Management Treatment Plan
<b>MM-PA (CFTP)-2</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Construction Personnel Briefing:</b> In accordance with the PMTP, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossiliferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur.	Potential to unexpectedly encounter and impact subsurface paleontological resources during grading and excavation associated with construction of the CFTP	Prior to initiation of grading and/or excavation activities associated with the construction of the CFTP	Once	Completion of briefing of construction personnel on identification of fossils or fossiliferous deposits and notification procedures in accordance with the PMTP

**CROSSFIELD TAXIWAY PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

CFTP-Specific Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<b>Biotic Communities</b>					
<p><b>MM-BC (CFTP)-1</b></p> <p><b>Monitoring Agency:</b> <b>LAWA</b></p>	<p><b>Conservation of Floral Resources: Southern Tarplant.</b> LAWA or its designee shall prepare a special status plant mitigation program. The loss of the southern tarplant individuals shall be mitigated through seed collection and seeding into a suitable mitigation site within undeveloped property owned by LAWA, determined based on habitat, soil type, moisture levels, and other relevant conditions.</p> <p>A qualified Seed Collector shall monitor the tarplant phenology to determine the appropriate timing for seed collection. Tarplant seed shall be collected from all tarplants within the impact area, which shall be delineated in the field with lath and flagging by a Qualified Biologist. The Biologist shall ensure that seed shall only be collected from plants that will be impacted by the CFTP. Upon completion of seed collection, the seed collector shall clean the seeds to prepare for the seeding effort.</p> <p>A mitigation plan shall be developed at a level of detail necessary for successful program implementation by a Landscape Contractor. The detailed program shall contain the following items:</p> <ul style="list-style-type: none"> <li>◆ <i>Responsibilities and qualifications of the personnel to implement and supervise the plan.</i> The plan shall specify the responsibilities and qualifications of the personnel who will supervise and implement the mitigation plan, including LAWA, Technical Specialists, and Maintenance Personnel.</li> </ul>	<p>Impacts on the loss of the southern tarplant individuals</p>	<p>Preparation of a special status plant mitigation program prior to relocation/ construction of the existing American Airlines employee parking lot</p>	<p>As per special status plant mitigation program for southern tarplant resources; Regular site visits (i.e. monthly, quarterly) for no more than 5 years or until germination, flowering and seed set of at least 29 individuals (100 percent of the original population size)</p>	<p>Preparation of special status plant mitigation program; Periodic Monitoring Report</p>

**CROSSFIELD TAXIWAY PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

CFTP-Specific Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<ul style="list-style-type: none"> <li>◆ <i>Site selection.</i> The site for the mitigation shall be determined in coordination with LAWA, and shall be located in a suitable area within the boundaries of LAX. The appropriate site shall consist of approximately 0.14 acre and shall have suitable hydrology, soils, and other factors necessary for the establishment of the southern tarplant. Such suitable sites exist within the boundaries of LAX, including but not limited to areas within LAX Northside and in the southwestern portion of the airport, west of the south airfield complex.</li> <li>◆ <i>Site preparation and planting implementation.</i> The plan shall include specifications for seed collection and storage and guidelines for on-site preparation. The guidelines shall contain specifications for (1) existing native species protection; (2) trash and weed removal; (3) soil treatments (e.g., imprinting and decompacting); (4) temporary irrigation installation as needed; (5) erosion control measures (e.g., rice or willow wattles); and (6) seed application.</li> <li>◆ <i>Schedule.</i> A schedule shall be developed, which includes planting, to occur in late fall and early winter (between October and January 30).</li> <li>◆ <i>Maintenance plan/guidelines.</i> A three to five year maintenance plan shall include (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance; (5) maintenance training; and (6) replacement seeding, if necessary. Ten percent of the original seed collected shall be stored in the event it is needed for replacement seeding.</li> </ul>				

**CROSSFIELD TAXIWAY PROJECT  
MITIGATION MONITORING & REPORTING PROGRAM  
FOR NEW MITIGATION MEASURES<sup>1</sup>**

CFTP-Specific Mitigation Measures	Potential Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<p>◆ <i>Monitoring plan.</i> The monitoring plan shall include the following success criteria:</p> <ul style="list-style-type: none"> <li>- Germination, flowering and seed set of at least 17 individuals (60 percent of the original population size) in year one;</li> <li>- Germination, flowering and seed set of at least 23 individuals (80 percent of the original population size) by year three;</li> <li>- Germination, flowering and seed set of at least 29 individuals (100 percent of the original population size) by year five.</li> </ul> <p>If these success criteria are not met, or are unlikely to be met within the required time periods, remedial measures will be required.</p> <p>This plan may include qualitative and quantitative monitoring. Qualitative monitoring includes site visits at regular intervals (i.e., monthly, quarterly, etc.) to determine the overall general performance of the site and maintenance needs. Quantitative monitoring is conducted on an annual basis and includes data collection specific to the performance standards established in the monitoring plan.</p> <p><i>Long-term preservation.</i> Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure that future development does not impact the mitigation site.</p>				

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

Bradley West Project-Specific Mitigation Measures	Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<b>Surface Transportation</b>					
<b>MM-ST (BWP)-1</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Trip Reduction Measures.</b> LAWA will implement the following trip reduction measures:  (a) Continue to promote and expand the FlyAway services in accordance with LAX Master Plan Mitigation Measure MM-AQ-3. It is anticipated that the continued expansion of the FlyAway service will promote a shift in mode-share away from the private vehicle mode which would reduce traffic volume using the CTA roadway system.  (b) Continue to promote the consolidation of shuttle services (e.g., hotel/motel, off-airport parking, rental cars) or programs to reduce trips associated with these modes.	Traffic congestion and delays along on-airport roadways during airport operations	Ongoing programs	Annually	Status updates/confirmation in annual MMRP progress report
<b>MM-ST (BWP)-2</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Improve the Intersection of Center Way and World Way South.</b> Widen World Way South approach on the east side of the roadway to provide an additional right turn lane. The resulting configuration would be a single left turn lane, one through-left turn lane, two through lanes, and two right turn lanes.  During the Future (2013) Without Project overall airport peak hour the intersection of Center Way and World Way South operates at a V/C of 0.978 which is LOS E. With an intersection operating at a LOS E condition, the volume to capacity ratio can be increased by 0.01 without generating an impact. This	Traffic congestion and delays at the intersection of Center Way and World Way South during airport operations	When traffic levels reach the conditions specified in the measure	(1) Prior to implementation of intersection improvements, this measure will be monitored annually to determine whether CTA average daily traffic volumes in the peak month (August) have	Confirmation that the subject intersection improvement has been completed

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

Bradley West Project-Specific Mitigation Measures	Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<p>equates to an increase in the intersection's V/C ratio from 0.978 to 0.988, or approximately 1.1 percent (i.e., 0.988/0.978) in the critical movement traffic volume without triggering an impact. LAWA will monitor traffic conditions at this intersection to determine when an estimated impact has been "triggered" in accordance with the LOS thresholds described above. Specifically, LAWA will monitor future CTA average daily traffic volumes in August to determine when CTA average daily traffic volumes have increased by more than 1.1 percent relative to the Future (2013) Without Project average daily traffic volumes. In addition, LAWA will record turning movement volumes at this intersection annually during the airport's peak month (August). When the August average daily CTA volumes have increased by 1.1 percent as compared to the Future (2013) Without Project estimated volume, LAWA will complete a V/C analysis using the same intersection methodology described in the Bradley West Draft EIR (Section 4.1.3.7) to determine if an impact has occurred. The mitigation measure would be constructed once both (a) the CTA average daily traffic volumes are 1.1 percent greater than the Future (2013) Without Project and (b) the V/C for the intersection meets or exceeds 0.988. The intersection analysis would be subject to approval by LADOT regarding timing of the mitigation measure.</p>			<p>increased by more than 1.1 percent relative to the Future (2013) Without Project average daily traffic volumes, based on annual passenger activity reports. (2) Following implementation of intersection improvements, the monitoring frequency will be reduced to once, upon completion of subject intersection improvement</p>	

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<b>MM-ST (BWP)-3</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Widen World Way Across from TBIT.</b> Widen the arrivals-level outer roadway across from TBIT by changing the left-most lane that currently terminates at Center Way to a through/left lane and extending this lane to World Way South.	Traffic congestion and delays along on-airport roadways during airport operations	The subject widening shall occur in conjunction with the project-related construction at TBIT, which is anticipated to be completed in 2013	Once, upon completion of subject roadway widening	Confirmation that the subject roadway widening has been completed
<b>MM-ST (BWP)-4</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Modify the Intersection of Airport Boulevard and Manchester Avenue (Intersection #9).</b> The eastbound approach to the Airport Boulevard and Manchester Avenue intersection shall be restriped to provide one left-turn lane, two through lanes, and a through/right lane. Three parking spaces on the south side of Manchester Avenue west of Belford Avenue and two parking spaces on the south side of Manchester Avenue east of Belford Avenue shall be restricted during the PM peak period. Alternatively, the westbound approach to the Airport Boulevard and Manchester Avenue intersection shall be restriped and the traffic signal modified to provide two left-turn lanes, two through lanes, and a right-turn lane. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.	Traffic congestion and delays at the intersection of Airport Boulevard and Manchester Avenue during airport operations	If/when international passenger activity levels at TBIT increase to 19.7 million annual passengers	(1) Prior to implementation of the intersection improvements, this measure will be monitored annually to determine whether TBIT passenger activity levels have reached 19.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to	Confirmation that the subject intersection improvement has been completed

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

Bradley West Project-Specific Mitigation Measures		Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
				occurring just once, upon completion of the intersection improvement	
<b>MM-ST (BWP)-5</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Modify the Intersection of Arbor Vitae Street and Aviation Boulevard (Intersection #10).</b> The eastbound approach to the Arbor Vitae Street and Aviation Boulevard intersection shall be widened to provide one left-turn lane, two through lanes, and a right-turn lane. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles and City of Inglewood. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 20.7 million annual passengers.	Traffic congestion and delays at the intersection of Arbor Vitae Street and Aviation Boulevard during airport operations	If/when international passenger activity levels at TBIT increase to 20.7 million annual passengers	(1) Prior to implementation of the intersection improvement, this measure will be monitored annually to determine whether TBIT passenger activity levels have reached 20.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to occurring just once, upon completion of the intersection	Confirmation that the subject intersection improvement has been completed

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
				improvement	
<p><b>MM-ST (BWP)-6</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Modify the Intersection of Imperial Highway and Sepulveda Boulevard (Intersection #71).</b> The northbound approach to the Imperial Highway and Sepulveda Boulevard intersection shall be restriped to provide one left-turn lane, three through lanes, and two right-turn lanes. While restriping this intersection as described above would mitigate this impact, an alternative would be to widen the east side of Sepulveda Boulevard south of Imperial Highway to provide one left-turn lane, three through lanes, and two right-turn lanes on the northbound approach. However, provided the right-of-way is available, the provision of additional travel lane area would require disruption of traffic flows, generation of construction-related air pollutant emissions and noise impacts, and therefore the restriping is recommended rather than the widening. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles, City of El Segundo, and Caltrans. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.</p>	<p>Traffic congestion and delays at the intersection of Imperial Highway and Sepulveda Boulevard during airport operations</p>	<p>If/when international passenger activity levels at TBIT increase to 19.7 million annual passengers</p>	<p>(1) Prior to implementation of the intersection improvement, this measure will be monitored annually to determine whether TBIT passenger activity levels have reached 19.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to occurring just once, upon completion of the intersection improvement</p>	<p>Confirmation that the subject intersection improvement has been completed</p>

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<b>MM-ST (BWP)-7</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Modify the Intersection of La Cienega Boulevard and I-405 Ramps N/O Century Boulevard (Intersection #96).</b> The southbound approach to the La Cienega Boulevard and I-405 Ramps N/O Century Boulevard intersection shall be widened to provide two left-turn lanes and two through lanes. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles, City of Inglewood, and Caltrans. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 20.7 million annual passengers.	Traffic congestion and delays at the intersection of La Cienega Boulevard and I-405 Ramps N/O Century Boulevard during airport operations	If/when international passenger activity levels at TBIT increase to 20.7 million annual passengers	(1) Prior to implementation of the intersection improvement, this measure will be monitored annually to determine whether TBIT passenger activity levels have reached 20.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to occurring just once, upon completion of the intersection improvement	Confirmation that the subject intersection improvement has been completed
<b>MM-ST (BWP)-8</b>  <b>Monitoring Agency:</b>	<b>Modify the Intersection of La Tijera Boulevard and Sepulveda Boulevard (Intersection #101).</b> The westbound approach to the La Tijera Boulevard and Sepulveda Boulevard intersection shall be restriped	Traffic congestion and delays at the intersection of La Tijera Boulevard and	If/when international passenger activity levels at TBIT	(1) Prior to implementation of the intersection improvement, this	Confirmation that the subject intersection improvement has been completed

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<b>LAWA</b>	and the traffic signal modified to provide two left-turn lanes, one through lane, and a through/right lane. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 18.7 million annual passengers.	Sepulveda Boulevard during airport operations	increase to 18.7 million annual passengers	measure will be monitored annually to determine whether TBIT passenger activity levels have reached 18.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to occurring just once, upon completion of the intersection improvement	

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p><b>MM-ST (BWP)-9</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Modify the Intersection of Sepulveda Boulevard and 76th/77th Street (Intersection #136).</b> The eastbound approach to the Sepulveda Boulevard and 76th/77th Street intersection shall be restriped to provide two left-turn lanes, a through/left-turn lane, and one right-turn lane. This mitigation measure will be implemented to the standards and satisfaction of the City of Los Angeles. Implementation of this measure shall occur if/when international passenger activity levels at TBIT increase to 19.7 million annual passengers.</p>	<p>Traffic congestion and delays at the intersection of Sepulveda Boulevard and 76th/77th Street during airport operations</p>	<p>If/when international passenger activity levels at TBIT increase to 19.7 million annual passengers</p>	<p>(1) Prior to implementation of the intersection improvement, this measure will be monitored annually to determine whether TBIT passenger activity levels have reached 19.7 MAP, based on annual passenger activity reports. (2) Following implementation of the intersection improvement, the monitoring frequency will be reduced to occurring just once, upon completion of the intersection improvement</p>	<p>Confirmation that the subject intersection improvement has been completed</p>
<p><b>MM-ST (BWP)-10</b></p> <p><b>Monitoring Agency:</b></p>	<p><b>Modify the Intersection of Imperial Highway and Main Street (Intersection #68).</b> Modify the median island on the east leg of the intersection to provide a second left turn lane. The resulting westbound</p>	<p>Traffic congestion and delays at the intersection of Imperial Highway and Main</p>	<p>The preparation of intersection improvement plans, pursuit of</p>	<p>Once, upon completion of the subject intersection</p>	<p>Confirmation that the subject intersection improvement has been completed</p>

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<b>LAWA</b>	configuration would be comprised of a dual left-turn lane and two through lanes.	Street due to peak construction traffic	necessary approvals, and scheduling for receipt of contractor estimates/bids shall commence immediately upon approval of the Bradley West Project	improvement	
<b>MM-ST (BWP)-11</b> <b>Monitoring Agency:</b> <b>LAWA</b>	<b>Modify the Intersection of Imperial Highway and Pershing Drive (Inter-section #69).</b> Widen the north side of the westbound approach of Imperial Highway to provide a second right-turn lane. The resulting westbound lane configuration would be comprised of one left turn lane, two through lanes, and two right turn lanes.	Traffic congestion and delays at the intersection of Imperial Highway and Pershing Drive due to peak construction traffic	The preparation of intersection improvement plans, pursuit of necessary approvals, and scheduling for receipt of contractor estimates/bids shall commence immediately upon approval of the Bradley West Project	Once, upon completion of the subject intersection improvement	Confirmation that the subject intersection improvement has been completed
<b>MM-ST (BWP)-12</b> <b>Monitoring Agency:</b>	<b>Distribution of Contractor Employee Parking between the Northwest Construction Staging/Parking Area and the East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area.</b> General parking for Bradley	Traffic congestion and delays at off-airport intersections during project construction	Prior to start of construction of the Bradley West Project	Once, prior to finalization of construction bid documents for activities that	Confirmation that construction bid documents for activities involving the subject parking areas

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<b>LAWA</b>	West Project contractor employees within the Northwest Construction Staging/Parking Area and within the East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area shall be distributed such that neither the northwest area (i.e., Northwest Construction Staging/Parking Area) or the east/southeast area (i.e., East Contractor Employee Parking Area or Southeast Construction Staging/Parking Area) is assigned parking for more than 601 vehicles. Should the need for contractor employees' daily general parking exceed 601 vehicles in either of these areas (northwest area or east/southeast area), the additional increment of daily parking demand shall be assigned to the other area.			would use the subject contractor employee parking areas	include the parking limitations specified in the measure

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

Bradley West Project-Specific Mitigation Measures		Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<b>Historical/Architectural and Archaeological/Cultural Resources</b>					
<b>MM-HA (BWP)-1</b>  <b>Monitoring Agency:</b>  <b>LAWA</b>	<b>Conformance with LAX Master Plan Archaeological Treatment Plan.</b> Prior to initiation of grading and construction activities, LAWA will retain an on-site Cultural Resource Monitor (CRM), as defined in the LAX Master Plan MMRP ATP, who will determine if the proposed project area is subject to archaeological monitoring. As defined in the ATP, areas are not subject to archaeological monitoring if they contain redeposited fill or have previously been disturbed. The CRM will compare the known depth of redeposited fill or disturbance to the depth of planned grading activities, based on a review of construction plans. If the CRM determines that the proposed project site is subject to archaeological monitoring, a qualified archaeologist (an archaeologist who satisfies the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) shall be retained by LAWA to inspect excavation and grading activities that occur within native material. The extent and frequency of inspection shall be defined based on consultation with the archaeologist. Following initial inspection of excavation materials, the archaeologist may adjust inspection protocols as work proceeds.	Potential to unexpectedly encounter and impact subsurface archaeological resources, including Native American remains, during grading and excavation associated with construction of the Bradley West Project	Prior to initiation of grading and/or excavation activities associated with the construction of the Bradley West Project	The extent and frequency of inspection shall be defined based on consultation with the qualified archaeologist if the Cultural Resource Monitor determines that the project area is subject to archaeological monitoring	Conformance with LAX Master Plan Archaeological Treatment Plan

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Bradley West Project-Specific Mitigation Measures		Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<b>Paleontological Resources</b>					
<b>MM-PA (BWP)-1</b>  <b>Monitoring Agency:</b> <b>LAWA</b>	<b>Conformance with LAX Master Plan Paleontological Management Treatment Plan.</b> Prior to the initiation of grading and construction activities, LAWA will retain a professional paleontologist, as defined in the Final LAX Master Plan MMRP PMTP, who will determine if the project site exhibits a high or low potential for subsurface resources. If the project site is determined to exhibit a high potential for subsurface resources, paleontological monitoring will be conducted in accordance with the procedures stipulated in the PMTP. If the project site is determined to exhibit a low potential for subsurface deposits, excavation need not be monitored as per the PMTP. In the event that paleontological resources are discovered, the procedures outlined in the PMTP for the identification of resources will be followed.	Potential to unexpectedly encounter and impact subsurface paleontological resources during grading and excavation associated with construction of the Bradley West Project	Prior to initiation of grading and/or excavation activities associated with the construction of the Bradley West Project	The extent and frequency of inspection shall be defined based on procedures outlined in the PMTP if the professional paleontologist determines that the project area is subject to paleontological monitoring	Conformance with LAX Master Plan Paleontological Management Treatment Plan
<b>MM-PA (BWP)-2</b>  <b>Monitoring Agency:</b> <b>LAWA</b>	<b>Construction Personnel Briefing.</b> In accordance with the PMTP, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossiliferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur.	Potential to unexpectedly encounter and impact subsurface paleontological resources during grading and excavation associated with construction of the Bradley West Project	Prior to initiation of grading and/or excavation activities associated with the construction of the Bradley West Project	Once, prior to the initiation of grading and/or excavation activities	Completion of briefing of construction personnel on identification of fossils or fossiliferous deposits and notification procedures in accordance with the PMTP

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Bradley West Project-Specific Mitigation Measures**

Bradley West Project-Specific Mitigation Measures	Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance	
<b>Biotic Communities</b>					
<p><b>MM-BC (BWP)-1</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Conservation of Floral Resources: Southern Tarplant.</b> LAWA or its designee shall prepare a special status plant mitigation program for the southern tarplant. The loss of the southern tarplant individuals shall be mitigated through seed collection and seeding into a suitable mitigation site within undeveloped property owned by LAWA or at a suitable off-site location, determined based on habitat, soil type, moisture levels, and other relevant conditions. One suitable off-site location is the Three Sisters Reserve located on the Palos Verdes Peninsula.</p> <p>A qualified Seed Collector shall monitor the tarplant phenology to determine the appropriate timing for seed collection. Tarplant seed shall be collected from all tarplants within the impact area, which shall be delineated in the field with lath and flagging by a qualified biologist. The biologist shall ensure that seed shall only be collected from plants that will be impacted by the Bradley West Project. Upon completion of seed collection, the seed collector shall clean the seeds to prepare for the seeding effort.</p> <p>A mitigation plan shall be developed at a level of detail necessary for successful program implementation by a landscape contractor. The detailed program shall contain the following items:</p> <ul style="list-style-type: none"> <li>◆ <i>Responsibilities and qualifications of the personnel to implement and supervise the plan.</i></li> </ul> <p>The plan shall specify the responsibilities and</p>	<p>Loss of southern tarplant individuals</p>	<p>Preparation of a special status plant mitigation program upon project approval and prior to initiation of construction of the Bradley West Project</p>	<p>As per special status plant mitigation program for southern tarplant ; Regular site visits (i.e., monthly, quarterly) for no more than 5 years or until germination, flowering and seed set of at least 300 individuals (100 percent of the original population size)</p>	<p>Preparation of special status plant mitigation program; periodic monitoring report, at least annually</p>

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Bradley West Project-Specific Mitigation Measures	Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<p>qualifications of the personnel who will supervise and implement the mitigation plan, including LAWA, Technical Specialists, and Maintenance Personnel.</p> <ul style="list-style-type: none"> <li>◆ <i>Site selection.</i> The site for the mitigation shall be determined in coordination with LAWA, and shall be located in a suitable area within the boundaries of LAX or at a suitable off-site location. The appropriate site shall consist of approximately 0.76 acre and shall have suitable hydrology, soils, and other factors necessary for the establishment of the southern tarplant. Such suitable sites exist within the boundaries of LAX, including but not limited to areas within LAX Northside and in the southwestern portion of the airport, west of the south airfield complex. If a site at LAX is selected, site selection will occur in consultation with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft.</li> <li>◆ <i>Site preparation and planting implementation.</i> The plan shall include specifications for seed collection and storage and guidelines for on-site preparation. The guidelines shall contain specifications for (1) existing native species protection; (2) trash and weed removal; (3) soil treatments (e.g., imprinting and decompacting); (4) temporary irrigation installation as needed; (5) erosion control measures (e.g., rice or willow</li> </ul>				

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Bradley West Project-Specific Mitigation Measures	Impact Being Addressed	Timing of Implementation	Monitoring Frequency	Actions Indicating Compliance
<p>wattles); and (6) seed application.</p> <ul style="list-style-type: none"> <li>◆ <i>Schedule.</i> A schedule shall be developed, which includes planting, to occur in late fall and early winter (between October and January 30).</li> <li>◆ <i>Maintenance plan/guidelines.</i> A three to five year maintenance plan shall include (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance; (5) maintenance training; and (6) replacement seeding, if necessary. Ten percent of the original seed collected shall be stored in the event it is needed for replacement seeding.</li> <li>◆ <i>Monitoring plan.</i> The monitoring plan shall include the following success criteria:               <ul style="list-style-type: none"> <li>- Germination, flowering and seed set of 60 percent of the original population size in year one;</li> <li>- Germination, flowering and seed set of 80 percent of the original population size by year three;</li> <li>- Germination, flowering and seed set of 100 percent of the original population size by year five.</li> </ul> </li> </ul> <p>If these success criteria are not met, or are unlikely to be met within the required time periods, remedial measures will be required. Such measures could include reseeding, transplanting container plants or selection of an alternative site if required.</p> <p>This plan may include qualitative and quantitative monitoring. Qualitative monitoring includes site visits at regular intervals (i.e., monthly, quarterly,</p>				

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	<p>etc.) to determine the overall general performance of the site and maintenance needs. Quantitative monitoring is conducted on an annual basis and includes data collection specific to the performance standards established in the monitoring plan.</p> <ul style="list-style-type: none"> <li>◆ <i>Long-term preservation.</i> Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure that future development does not impact the mitigation site.</li> </ul>				
<p><b>MM-BC (BWP)-2</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Conservation of Floral Resources: Lewis' Evening Primrose.</b> Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) on the project site, including construction staging areas, pre-construction focused surveys shall be conducted during the period of March through May by a qualified biologist to determine the presence or absence of Lewis' evening primrose. Known populations of this species shall be monitored to determine the best time to conduct the surveys. The surveys shall follow guidelines developed by the CNPS and the CDFG. If this species is not observed, no further mitigation shall be required. If this plant species is observed on-site, a qualified botanist and LAWA shall evaluate the number of individuals, their location and the type of impact that would occur to determine if the anticipated impact would result in a substantial adverse effect or substantial net reduction in the population, given the species' rarity and abundance. If impacts are deemed not significant, no additional measures are warranted.</p>	<p>Potential loss of Lewis' evening primrose individuals that would result in a substantial adverse effect or substantial net reduction in population</p>	<p>Prior to any work activities, pre-construction focused surveys during the period of March through May to determine the presence or absence of Lewis' evening primrose. If it is determined that a substantial net reduction in population would occur, preparation of a special status plant mitigation program prior to initiation of construction of the Bradley West</p>	<p>If required, as per special status plant mitigation program for Lewis' evening primrose; regular site visits (e.g., quarterly, annually) for no more than 5 years or until germination, flowering and seed set of at least an equal number of plants impacted</p>	<p>If required, preparation of special status plant mitigation program; periodic monitoring report, at least annually</p>

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>	<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p>If it is determined that a substantial net reduction in population would occur, LAWA or its designee shall prepare and implement a plan to compensate for the loss of individuals of the sensitive 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. A mitigation site of suitable habitat equal to the area of impact shall be delineated within the boundaries of LAX or at a suitable off-site location. If a site at LAX is selected, site selection will occur in consultation with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft. Collected seed shall be broadcast (distributed) after the first wetting rain. 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 an equal number of plants as that impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year flowering is observed.</p>		Project		

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<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p><b>MM-BC (BWP)-3</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Conservation of Floral Resources: California Spineflower.</b> Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) on the project site, including construction staging areas, pre-construction focused surveys shall be conducted during the period of March through July by a qualified biologist to determine the presence or absence of California spineflower. Known populations of this species shall be monitored to determine the best time to conduct the surveys. The surveys shall follow guidelines developed by the CNPS and the CDFG. If this species is not observed, no further mitigation shall be required. If this plant species is observed on-site, a qualified botanist and LAWA shall evaluate the number of individuals, their location and the type of impact that would occur to determine if the anticipated impact would result in a substantial adverse effect or substantial net reduction in the population, given the species' rarity and abundance. If impacts are deemed not significant, no additional measures are warranted.</p> <p>If impacts to California spineflower are found to be adverse, LAWA or its designee shall prepare and implement a plan to compensate for the loss of individuals of the sensitive California spineflower. LAWA or its designee shall collect seed from those plants to be removed, and properly clean and store the collected seed until used. A mitigation site of suitable habitat equal to the area of impact shall be delineated within the boundaries of LAX or at a suitable off-site location. If a site at LAX is selected,</p>	<p>Potential loss of California spineflower individuals that would result in a substantial adverse effect or substantial net reduction in population</p>	<p>Prior to any work activities, pre-construction focused surveys during the period of March through July to determine the presence or absence of California spineflower. If it is determined that a substantial net reduction in population would occur, preparation of a special status plant mitigation program prior to initiation of construction of the Bradley West Project</p>	<p>If required, as per special status plant mitigation program for California Spineflower; regular site visits (e.g., quarterly, annually) for no more than 5 years or until germination, flowering and seed set of at least an equal number of plants impacted</p>	<p>If required, preparation of special status plant mitigation program; periodic monitoring report, at least annually</p>

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<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
	<p>site selection will occur in consultation with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft. Collected seed shall be broadcast (distributed) after the first wetting rain. LAWA or its designee shall implement a monitoring plan to monitor the establishment of individuals of California spineflower for a period of not more than five years. Performance criteria shall include the establishment of an equal number of plants as that impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year flowering is observed.</p>				
<p><b>MM-BC (BWP)-4</b> <b>Monitoring Agency:</b> <b>LAWA</b></p>	<p><b>Conservation of Faunal Resources: Burrowing Owl.</b> Prior to any work activities (i.e., vegetation clearing, invasive species removal and/or spraying, and sediment removal) within the Southeast Construction Staging/Parking Area (also known as the Continental City site), a survey for burrows by a qualified biologist will be conducted by walking through the suitable habitat within the site in accordance with CDFG-accepted protocols. If the site contains burrows that could be used by burrowing owls, four surveys will be conducted during the burrowing owl breeding season (April 15 through July</p>	<p>Potential loss of burrowing owl individuals</p>	<p>Prior to any work activities within the Southeast Construction Staging/Parking Area, a survey for burrows that could be used by burrowing owls and, if burrows are present, four additional surveys</p>	<p>If required, monthly removal of burrows between September and January every year during construction period. If nesting owls are identified during the four surveys,</p>	<p>If required, preparation of Habitat Restoration Plan including periodic monitoring report, at least annually. Removal of burrows annually, if present, until entire staging area is in use; reports submitted periodically, at least annually, during construction or</p>

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Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>	<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p>15). If an active burrow is observed during the nesting season, disturbance of the owls would constitute a significant impact and the burrow will be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for burrowing owl normally occurs from February 1 through August 31. To protect any active burrow, the following restrictions are required between February 1 and August 31 (or until burrows are no longer active as determined by a qualified biologist): (1) clearing limits will be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying will be restricted within 200 feet of any occupied nest. Any encroachment into the 300/200 foot buffer area around the known nest will only be allowed if it is determined by a qualified biologist that the proposed activity will not disturb the nest occupants. These avoidance measures will be coordinated with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Management Plan."</p> <p>If nesting individuals are observed, LAWA or its designee will develop and implement a habitat replacement plan to compensate for the loss of habitat associated with use of the site for construction staging and parking. The objective of the habitat replacement plan will be to replace the habitat value to be lost with equal or greater habitat value. The habitat replacement will occur at an off-site location to avoid</p>		<p>between April 15 and July 15 followed by monthly removal of any burrows onsite between September and January until such time as the entire staging area is in active use</p>	<p>protection of active burrows between February 1 and August 31</p>	<p>until entire staging area is in use</p>

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Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
	<p>potential conflicts with aircraft activities at LAX. Off-site locations for habitat replacement may include Madrona Marsh Nature Center in Torrance, Three Sisters Reserve located on the Palos Verdes Peninsula, or another location deemed appropriate.</p> <p>Whether or not any nesting burrowing owls are identified on-site, after the end of the nesting period (August 31), LAWA or its designee will remove all burrows from the site on a monthly basis between September and January. Removal may include physically collapsing the burrows or installing one-way doors in burrow entrances. Such maintenance will continue annually until such time as the entire staging area is in active use.</p>				
<p><b>MM-BC (BWP)-5</b></p> <p><b>Monitoring Agency:</b></p> <p><b>LAWA</b></p>	<p><b>Conservation of Faunal Resources: Loggerhead Shrike.</b> If construction is scheduled to occur during the nesting season for the loggerhead shrike (March 15 to August 15), vegetation that will be impacted by the proposed project shall be removed outside the nesting season if feasible. If this is not feasible, a qualified biologist shall inspect the shrubs/trees at least 14 days prior to construction activities to ensure that no nesting shrike are present. If a nest is present, construction avoidance measures shall include flagging of all active nests and a 300-foot wide buffer area around the active nests. These construction avoidance measures will be coordinated with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports"</p>	Potential loss of nesting loggerhead shrike individuals	If construction is scheduled to occur between March 15 and April 15, removal of vegetation outside the nesting season, if feasible. If not feasible, pre-construction surveys 14 days prior to construction	If nests are present, a Biological Monitor shall be present between March 15 and August 15	Removal of vegetation between August 16 and March 14 prior to initiation of construction followed by a report of activities. Alternatively, if required, pre-construction surveys 14 days prior to construction occurring between March 15 and April 15. If required, establishment of construction avoidance measures and onsite monitoring between

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<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
	and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft. In addition, a Biological Monitor shall be present to ensure the buffer area is not infringed upon and vegetation clearing within the designated 300-foot buffer only takes place from August 16 to March 14.				March 15 and August 15 and written report documenting construction avoidance measures undertaken; reports submitted periodically, at least annually, during construction or until vegetation has been removed
<b>MM-BC (BWP)-6</b> <b>Monitoring Agency:</b> <b>LAWA</b>	<b>Conservation of Faunal Resources: San Diego Black-Tailed Jackrabbit.</b> Prior to the commencement of clearing operations or other activities involving significant soil disturbance at locations identified in Table 4.7-2 with suitable habitat, a survey shall be conducted to locate black-tailed jackrabbits within 100 feet of the outer extent of projected soil disturbance activities. The locations of any observed jackrabbits shall be clearly marked and identified on the construction plans. If this species is present, a monitoring biologist shall be on-site during any clearing to flush the jackrabbit from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. The monitoring biologist shall have authority to halt construction activities until individual jackrabbits can be removed from the construction impact areas to assure that the jackrabbit shall not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.	Potential loss of San Diego black-tailed jackrabbit individuals	Prior to commencement of clearing operations or other activities involving significant soil disturbance within the Northwest Construction Staging/Parking Area, West Construction Staging Area, or Southeast Construction Staging/Parking Area	If species is present, a monitoring biologist shall be onsite prior to and during any brush-clearing and earth-moving activities	If required, onsite monitoring during brush-clearing and earth-moving activities and written documentation of field activities submitted periodically, at least annually, during construction or until all clearing and soil disturbance at identified locations is complete

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<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p><b>MM-BC (BWP)-7</b> <b>Monitoring Agency:</b> <b>LAWA</b></p>	<p><b>Conservation of Floral Resources: Mature Tree Replacement.</b> LAWA or its designee shall compensate at a ratio of 2:1 for the loss of mature trees, which would occur as a result of implementation of Northwest Construction Staging/Parking Area. The species of newly planted replacement trees shall be local native tree species to the extent feasible. Each mitigation tree shall be at least a 15-gallon or larger specimen. The replacement will be implemented within the boundaries of LAX or at a suitable off-site location. If mitigation occurs within LAX boundaries, the replacement site and tree species will be determined in consultation with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft.</p>	<p>Potential loss of mature trees</p>	<p>Prior to removal of mature trees within the Northwest Construction Staging/Parking Area</p>	<p>If mitigation occurs within LAX boundaries, periodic site visits to ensure trees are established, at least annually</p>	<p>Replacement of trees, if required and monitoring report one year following planting</p>
<p><b>MM-BC (BWP)-8</b> <b>Monitoring Agency:</b> <b>LAWA</b></p>	<p><b>Conservation of Faunal Resources: Nesting Birds/Raptors.</b> To comply with the Migratory Bird Treaty Act, for those areas of the project site that are not actively maintained and have a potential for nesting birds/raptors, if construction is scheduled to occur during the nesting season for birds/raptors (generally February 1 to June 30 for raptors and March 15 to August 15 for nesting birds), vegetation that will be impacted by the proposed project shall be removed outside the nesting season if feasible. If this is not feasible, then a qualified biologist shall inspect the shrubs/trees prior to project activities to ensure that no nesting birds/raptors are present. If the</p>	<p>Potential loss of nesting birds/raptors subject to the Migratory Bird Treaty Act</p>	<p>If construction occurs between February 1 and August 15, removal of vegetation outside the nesting season, if feasible. If not feasible, pre-construction surveys</p>	<p>If active nests are present and may be impacted, a Biological Monitor shall be present during those periods when construction activities will occur near active nest areas</p>	<p>If required, establishment of buffer zones and construction avoidance measures between February 1 and August 15 and written report documenting construction avoidance measures undertaken; reports submitted periodically,</p>

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<b>Bradley West Project-Specific Mitigation Measures</b>		<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
	<p>biologist finds an active nest within the construction area and determines that the nest may be impacted, the biologist will delineate an appropriate buffer zone; the size of the buffer zone will depend on the species and the type of construction activity, and will be determined in consultation with CDFG. Only construction activities (if any) that have been approved by a Biological Monitor will take place within the buffer zone until the nest is vacated. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. These construction avoidance measures will be coordinated with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft.</p>				at least annually, during construction or until vegetation is removed
<b>Endangered and Threatened Species of Flora and Fauna</b>					
<b>MM-ET (BWP)-1</b>	<p><b>Mitigation for Riverside Fairy Shrimp.</b> If Riverside fairy shrimp are found to be located on-site, LAWA shall coordinate with FAA and USFWS to initiate consultation under the federal Endangered Species Act and prepare a Mitigation Plan in consultation with the USFWS. The plan shall provide mitigation for direct impacts to affected habitat through salvage and relocation of soil containing Riverside fairy shrimp. The receiver site of the soil and cysts shall be equal or</p>	Potential loss of Riverside fairy shrimp individuals at Southeast Construction Staging/Parking Area	If required, preparation of Mitigation Plan for Riverside fairy shrimp prior to clearing or other construction activities within the Southeast	If required, monthly during the first year following relocation of cyst-bearing soils, quarterly in years 2-4, biannually in years 5, 7 and 9,	If required, preparation of Mitigation Plan for Riverside Fairy Shrimp; annual monitoring reports due to USFWS on September 1 of each specified monitoring year
<b>Monitoring Agency:</b>					
<b>LAWA</b>					

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<p>greater in biological value, as determined by the USFWS.</p> <p>Specific requirements of the Mitigation Plan shall be subject to the Section 7 consultation with USFWS, but generally will require that soils containing embedded cysts of the Riverside fairy shrimp be salvaged and translocated to created Riverside fairy shrimp habitat at a suitable site. One potential site is the Madrona Marsh Nature Center in Torrance, 20 miles south of LAX. Responsibility for habitat creation and maintenance of the created habitat may be transferred to a LAWA designee at any time with USFWS approval.</p> <p>Soils containing embedded cysts of the Riverside fairy shrimp shall not be translocated to the created habitat until the habitat is established and has met certain success criteria specified during Section 7 consultation. Success criteria for the created habitat will likely include holding water for a minimum of 60 days, having less than 10 percent absolute cover exotic herbaceous species within the created habitat, having less than 20 percent absolute cover of exotic herbaceous species within 300 feet of the area from limits of the created habitat, removal of all non-herbaceous plant species within the created habitat and 300 feet from the created habitat annually, and providing suitable water quality for Riverside fairy shrimp. Duration of inundation, exotic species removal, and water quality analyses may be undertaken within the first year after habitat creation. The performance criteria for percent absolute cover of</p>		<p>Construction Staging/Parking Area; Implementation per Mitigation Plan</p>	<p>annually in year 10</p>	

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Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>	<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p>exotic herbaceous species within 300 feet of the area from limits of the created habitat may be redesignated by mutual agreement of FAA, LAWA, and USFWS.</p> <p>Upon meeting success criteria and approval from the USFWS, soils containing embedded cysts of the Riverside fairy shrimp may be brought to the created habitat. LAWA shall make every effort to collect all cyst-bearing soils from the entire surface area of the occupied habitat, however it is expected that some small number of undetected individual cysts will remain in the soil. Soil containing the cysts shall be salvaged and translocated during the dry season to minimize damage to the cysts during transport. The soil shall be collected using a hand trowel, removed in chunks, and kept out of direct sunlight to ensure viability. Soil shall be stored in properly labeled boxes or bags with adequate ventilation. The soils shall then be deposited and spread out in small basins or pool-like areas of similar size without active mechanical compaction to minimize potential damage to the cysts. Any potential indirect environmental impacts resulting from habitat construction activities shall be compliant with best management practices and terms and conditions stipulated by the permitting agencies.</p> <p>LAWA or its designee, in conjunction with the USFWS and a qualified wildlife biologist, shall also develop a program to monitor created habitat for the presence of Riverside fairy shrimp as described in the Mitigation Plan. LAWA shall be responsible for implementing a monitoring and reporting program to demonstrate successful achievement of the performance standards</p>				

**Mitigation Monitoring and Reporting Program  
Bradley West Project-Specific Mitigation Measures**

<b>Bradley West Project-Specific Mitigation Measures</b>	<b>Impact Being Addressed</b>	<b>Timing of Implementation</b>	<b>Monitoring Frequency</b>	<b>Actions Indicating Compliance</b>
<p>to be determined in consultation with USFWS for off-site relocation over a 10-year period:</p> <ul style="list-style-type: none"> <li>◆ Monthly during the first year, following relocation of soils containing embedded cysts of the Riverside fairy shrimp</li> <li>◆ Quarterly in the second, third, and fourth years, following relocation of soils containing embedded cysts of the Riverside fairy shrimp</li> <li>◆ Biannually in the fifth, seventh, and ninth years, following relocation of soils containing embedded cysts of the Riverside fairy shrimp</li> <li>◆ Annually in the tenth year, following relocation of soils containing embedded cysts of the Riverside fairy shrimp</li> </ul> <p>LAWA shall provide the USFWS with annual monitoring reports as specified in the Mitigation Plan. The monitoring report, due on September 1 of each specified monitoring year, shall provide information regarding the implementation of habitat creation, restoration, and maintenance activities. The yearly report shall also discuss the effectiveness of the project as it pertains to the existing condition of the created habitat and Riverside fairy shrimp population. To measure the effectiveness of the created habitat, the FAA and LAWA shall work with the USFWS to develop long-term goals and objectives as part of their habitat creation plan.</p>				

## **APPENDIX C**

### **LAX MASTER PLAN MMRP PROGRAM PLAN STATUS UPDATE**

**LAX Master Plan Mitigation Measures and Reporting Program (MMRP)  
Program Plan Status Update  
December 2011**

No.	Program Plan Title	Program Plan Description	Master Plan Commitments/Mitigation Measures Addressed	Status (as of December 2011)
1	Aircraft Noise Abatement Program (ANAP) (existing)	The ANAP sets forth LAWA's noise abatement traffic, flight, and runway use procedures and includes ground operations restrictions and other airport noise abatement procedures, restrictions, and regulations involving aircraft operations.	MM-N-4: Update the Aircraft Noise Abatement Program elements as applicable to adapt to the future airfield configuration	Ongoing: LAWA Noise Management Section provides ongoing updates to ANAP, which will include updates based on modifications to the LAX airfield configuration, as appropriate.
2	Aircraft Noise Mitigation Program (ANMP) (existing)	The ANMP describes the ongoing efforts by LAWA to convert existing incompatible land uses surrounding each of its three noise impacted airports to compatible land uses through the implementation of two noise mitigation strategies: (1) sound insulation of structures; and (2) the acquisition of property followed by the conversion of its incompatible land use to compatible land use (land recycling).	MM-LU-1 : Implement revised ANMP MM-LU-2 : Incorporate residential dwelling units exposed to single event awakenings into ANMP	Ongoing: Existing program is in place with periodic report updates to the County of Los Angeles.
3	Master Plan for Air Quality (MPAQ)	The MPAQ identifies the air quality mitigation requirements for the LAX Master Plan. Briefly stated, the objectives of the MPAQ are to maintain or reduce air emissions associated with the construction and operation of the LAX Master Plan to levels equal to (or less than) the thresholds of significance and, at a minimum, keep these emissions below the levels forecasted in the LAX Master Plan EIR.	MM-AQ-1 : LAX Master Plan – Air Quality Mitigation Plan for Air Quality MM-AQ-2 : Construction-Related Mitigation Measures MM-AQ-3 : Transportation-Related Mitigation Measures MM-AQ-4 : Operations-Related Mitigation Measures	In Progress: Master Plan for Air Quality (MPAQ) consists of 4 main parts:  MM-AQ-1: Completed in October 2005 and adopted by City Council on January 11, 2006  MM-AQ-2: Completed in October 2005 and adopted by City Council on January 11, 2006  MM-AQ-3: Ongoing in conjunction with re-evaluation of the FlyAway Program.  MM-AQ-4: Ongoing. LAWA will update the GSE Inventory as part of the process to develop a GSE conversion plan for implementation at LAX. LAWA is conducting preliminary work to issue a Request for Proposals (RFP) in 2012 to consultants to conduct a comprehensive e-GSE study.
4	Ground Transportation Outreach Program (GTOP)	The GTOP establishes appropriate mechanisms to involve and coordinate with other major airport-area development projects to the extent feasible, to ensure that the cumulative impacts of construction traffic in the airport area are coordinated and minimized.	MM-ST-14: Ground Transportation/Construction Coordination Office Outreach Program C-1: Establishment of a GT/CCO	Completed: Final Ground Transportation Outreach Program issued in May 2006.
5	Construction Transportation Management Plan (CTMP)	The CTMP provides additional information regarding the measures from the LAX Master Plan MMRP related to the management of construction traffic during the implementation of the Master Plan. Surface transportation mitigation measures which are unrelated to the movement of construction traffic are not included in this plan.	ST-9: Construction Deliveries ST-12: Designated truck delivery hours ST-14: Construction employee shift hours ST-16: Designated haul routes ST-17: Maintenance of haul routes ST-18: Construction Traffic Management Plan ST-19: Closure restrictions of existing roadways ST-20: Stockpile locations ST-21: Construction employee parking locations ST-22: Designated truck routes	Completed: Final Plan dated May 2005.
6	Archaeological Treatment Plan (ATP)	The ATP focuses on the long-term protection and proper treatment of unexpected archaeological discoveries of federal, State, and/or local significance that might be encountered during construction activities of the LAX Master Plan projects. The purpose of the ATP is to achieve compliance with Section 106 of the National Historic Preservation Act (NHPA), the CEQA, and the environmental guidelines of local agencies.	MM-HA-1 : Historic American Buildings Survey (HABS) MM-HA-2 : Historic educational materials MM-HA-4 : Archaeological discovery MM-HA-5 : Archaeological monitoring MM-HA-6 : Excavation and recovery MM-HA-7 : Administration MM-HA-8 : Archaeological/Cultural Monitoring Report MM-HA-9 : Artifact curation	Completed: Final Plan approved by the FAA and other outside agencies in early 2006.

			MM-HA-10 : Archaeological notification	
7	Paleontological Management Treatment Plan (PMTP)	The PMTP focuses on the identification, recovery, proper treatment, and long-term protection and archival conservation of expected and unexpected paleontological discoveries of federal, State, and/or local significance that might be encountered during construction activities of the LAX Master Plan projects.	MM-PA-1: Paleontological Qualification and Treatment Plan MM-PA-2 : Paleontological authorization MM-PA-3 : Paleontological monitoring specification MM-PA-4 : Paleontological resources collection MM-PA-5 : Fossil preparation MM-PA-6 : Fossil donation MM-PA-7 : Paleontological reporting	Completed: Final Draft issued December 2005 by LAWA's Environmental Management Division (now Environmental Service Division). LAWA sent the PMTP to the Vertebrate Section of the County of LA Museum on January 11, 2006.
8	Conceptual Drainage Plan (CDP)	The CDP provides an overview of drainage and water quality conditions, capacities, constraints, regulatory framework, and analysis methodologies and identifies options for addressing the LAX Master Plan Alternative D impacts. The CDP provides the basis by which detailed drainage improvement plans shall be designed in conjunction with site engineering specific to each LAX Master Plan improvement project.	HWQ-1: Develop detailed drainage plan	Completed: Draft CDP issued in June 2005 and finalized in December 2005. Consistency Certification received from the Coastal Commission in December 2005.
9	Procedures for Handling of Contaminated Materials during Construction	This procedure focuses on pre-existing, previously unknown contaminated materials that may be encountered or are first released, spilled, or generated during construction at any phase or project of the LAX Master Plan implementation.	HM-2: Handling of contaminated materials encountered during construction	Completed: Final document issued in December 2005.
10	Utilities Relocation Program (URP)	The URP provides a framework to address potential impacts on the existing utilities and to minimize interference with the existing utilities associated with the LAX Master Plan construction.	PU-1: Develop a Utilities Relocation Plan E-2: coordination with utility providers DA-3: undergrounding of utility lines	Completed: Final Report completed in May 2005.
11	Street Frontage & Landscape Development Plan (SFLDP) (Existing)	The SFLDP provides integrated and coordinated landscape design guidelines for new development along the perimeter areas of LAX. It is not intended as a commitment by LAWA to affect and/or change existing conditions.	LU-4 : Neighborhood Compatibility Program LU-5 : Comply with City of LA Transportation Element Bicycle Plan DA-1 : Provide and Maintain Airport Buffer Areas DA-2 : Update and Integrate Design Plans and Guidelines W-1 : Maximize Use of Reclaimed Water W-2 : Enhance Existing Water Conservation Program	Completed: Final SFLDP completed on March 2, 2005.
12	Water Conservation Program (WCP)	LAWA's Sustainability Objectives include increased water conservation in all airport facilities and for all operations, with specific targets for increasing use of reclaimed water for landscaping and other non-potable uses, planting of drought-resistant vegetation, and installation of low-flow fixtures. LAWA's Sustainable Airport, Design and Construction Guidelines include the encouragement of water efficiency and conservation in construction design.	W-2: Enhance Existing Water Conservation Program	Completed: The Water Conservation Program is addressed as components in LAWA's Sustainability Plan, Annual Sustainability Report, and LAWA's Sustainable Airport Planning, Design and Construction Guidelines (LSAG).
13	Landscape Maintenance Program (LMP)	Program is being developed.	LU-2: Establishment of an LMP for parcels acquired due to airport expansion DA-1: Provide and maintain airport buffer areas	Not Applicable at this reporting period.
14	Residential & Business Relocation Plan (Draft Relocation Plan) (DRP)	The DRP provides procedures for implementing LAWA's LAX MP Relocation Assistance Program (RAP) in accordance with applicable laws, regulations, and policies. The Uniform Act and Title 49 CFR Part 24 serve as the basis for the policies and procedures established in this plan.	RBR-1: Residential and Business Relocation Program MM-RBR-1: Planning for business relocation MM-RBR-2: Relocation opportunities through ANMP	In Progress: Draft Relocation Plan approved by the BOAC in Dec 2004. The Final Plan will be developed when Master Plan improvements requiring acquisition are advanced to more detailed planning.
15	Fire & Police Facility Program (FPFP)	Based on current implementation of the Master Plan Program, fire and police facilities are planned on an individual basis in consultation with LAFD, LAWAPD, LAPD, and other agencies as appropriate.	PS-1: Fire and Police Facility Relocation Plan PS-2: Fire and Police Facility space and siting requirements	Completed for Fire Station 80. This requirement was not triggered for other on-airport fire and police facilities.
16	Solid Waste Recycling Plan (SWRP):	LAWA developed an enhanced Recycling Plan for LAX in 2010.	SW-1: Implement an Enhanced Recycling Program	Completed. LAWA developed an enhanced Recycling Plan in 2010 that continues to be implemented.

## **APPENDIX D**

### **SUMMARY STATUS OF STAND-ALONE MITIGATION PLANS**

## “Stand-Alone” Mitigation Plans

“Stand-alone” mitigation plans are derived from specific mitigation measures to address the overall impacts of the LAX Master Plan. These stand-alone plans are not linked to any particular project within the LAX Master Plan. Stand-alone plans are divided into five (5) major impact areas: Noise, Air Quality, Biotic Communities, Hydrology and Water Quality, and Environmental Justice. Table 1 below provides a summary status of all “stand-alone” mitigation plans. Brief descriptions of each stand-alone plan are discussed in the following subsections.

Table 1: "Stand-Alone" Mitigation Plans - Summary Status			Completed	In Progress	Existing Policy	Future Plan
<i>Noise and Land Use Mitigation Plans</i>						
4.0.A	N-1	Maintenance of Aircraft Noise Abatement Program			X	
4.0.B	MM-N-4	Update the Aircraft Noise Abatement Program				X
4.0.C	MM-N-5	Conduct Part 161 Study		X		
5.0.E	MM-LU-1	Implement Revised Aircraft Noise Mitigation Program		X		
5.0.F	MM-LU-2	Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program		X		
5.0.G	MM-LU-3	Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability for Children to Learn		X		
5.0.H	MM-LU-4	Provide additional sound insulation for schools shown by MM-LU-3 to be significantly impacted by aircraft noise				X
5.0.I	MM-LU-5	Upgrade and Expand Noise Monitoring Program	X			
<i>Environmental Justice</i>						
9.0.A	EJ-1	Aviation Curriculum		X		
9.0.B	EJ-2	Aviation Academy		X		
9.0.C	EJ-3	Job Outreach Center		X		
9.0.D	EJ-4	Community Mitigation Monitoring		X		
<i>Air Quality Mitigation Plans</i>						
10.0.A	AQ-1	Air Quality Source Apportionment Study		X		
10.0.B	AQ-2	School Air Filters				X
10.0.C	AQ-3	Mobile Health Research Lab				X
10.0.D	MM-AQ-1	Mitigation Plan for Air Quality	X			
10.0.E	MM-AQ-2	Construction-Related Mitigation Measures	X			
10.0.F	MM-AQ-3	Transportation-Related Mitigation Measures		X		
10.0.G	MM-AQ-4	Operations-Related Mitigation Measures		X		
<i>Hydrology and Water Quality</i>						
11.0.A	HWQ-1	Develop Conceptual Drainage Plan	X			
<i>Biotic Communities</i>						
14.0.D	MM-BC-8	Replacement of Habitat Units		X		
14.0.E	MM-BC-9	Conservation of Faunal Resources		X		
15.0.A	MM-ET-1	Riverside Fairy Shrimp Habitat Restoration		X		

## **APPENDIX E**

### **Southern Tarplant First Annual Monitoring Report for the Los Angeles International Airport Bradley West Expansion and Crossfield Taxiway American Airlines Employee Parking Lot Relocation Projects**

**Southern Tarplant First Annual Monitoring Report  
for the Los Angeles International Airport  
Bradley West Expansion and Crossfield Taxiway  
American Airlines Employee Parking Lot Relocation Projects  
Los Angeles County, California**



*Prepared For:*

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**December 2011**

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## **INTRODUCTION**

This report presents the results of the First Annual Monitoring Survey of the Southern Tarplant Restoration Project (Project) conducted on September 29, 2011. The five-year restoration and maintenance efforts outlined in the Project's Southern Tarplant Mitigation Plan (STMP; LAWA et al., 2011a) and LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) serve as mitigation for southern tarplant (*Centromadia parryi australis*) impacted by the Bradley West Expansion and Crossfield Taxiway American Airlines Employee Parking Lot Relocation Projects (BWP and CFTP, respectively). This report documents the conditions of the mitigation site, the methods of quantitative analysis used to determine whether success criteria are being met, and future recommendations for the Project.

In accordance with the LAX Master Plan MMRP mitigation measures for the BWP and CFTP, impacts to southern tarplant must be mitigated at a 1:1 ratio. A total of 329 individual plants were found prior to construction activity at the impacted sites. Therefore, mitigation required the establishment of a minimum of 329 new individual germinating, flowering and seed-setting plants within a 5-year period. A qualified biologist is required to monitor the maintenance effort and site conditions each quarter during the 5-year monitoring period, and document whether individual counts of southern tarplant are meeting the success criteria as indicated in Table 1: Performance Standards.

<b>TABLE 1: PERFORMANCE STANDARDS</b>	
<b>Year</b>	<b>Minimum Number of Germinating, Flowering and Seed-Setting Southern Tarplant Individuals</b>
One	198 (60% of Required Number)
Three	264 (80% of Required Number)
Five	329 (100% of Required Number)

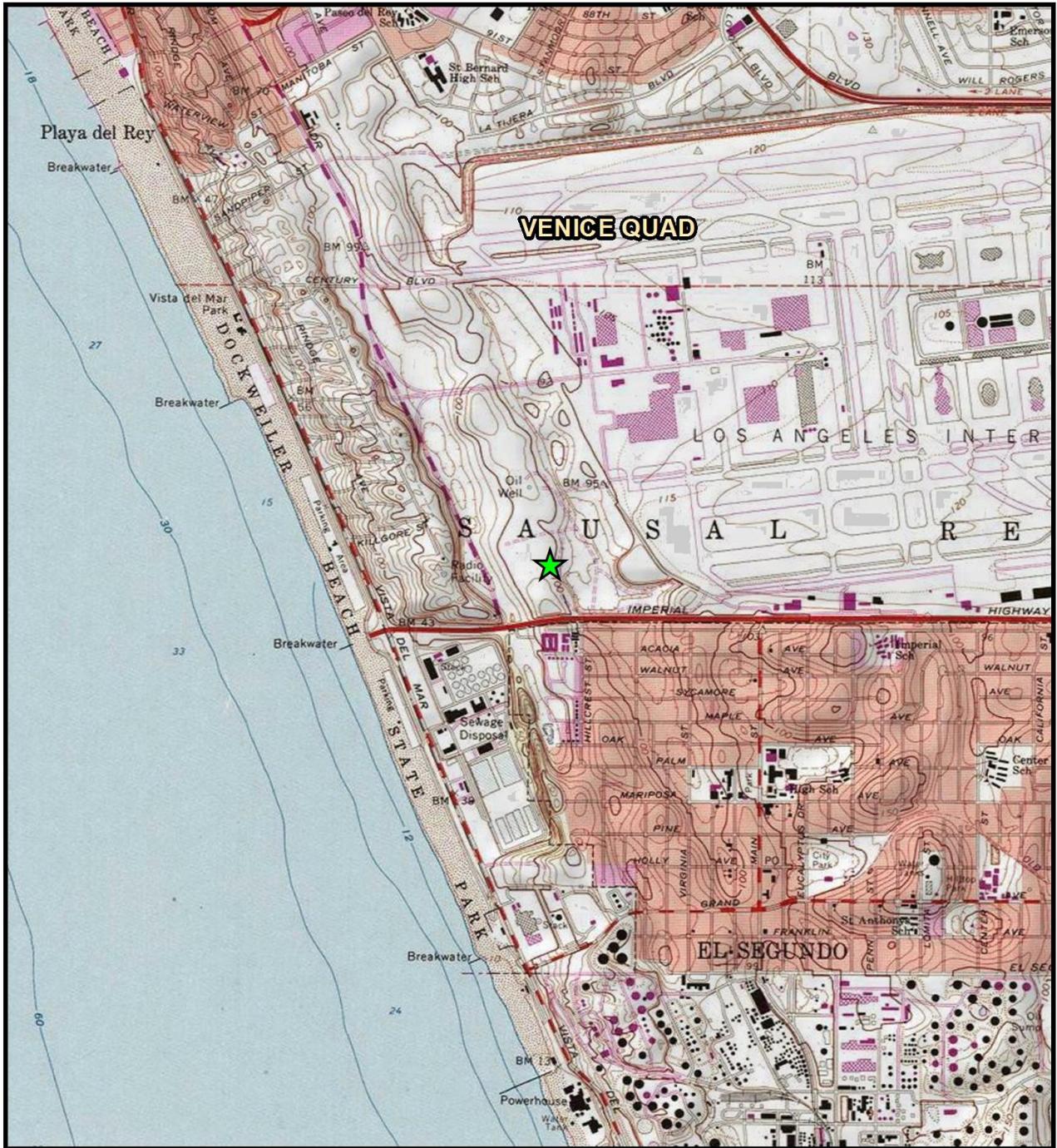
Plant installation and seeding was conducted in January and February 2011. A 90-Days Establishment Report was submitted in April 2011 (LAWA et al., 2011b) to document initial project efforts and outcomes, followed by a Spring Quarterly Monitoring letter report in July 2011 (LAWA et al., 2011c). The purpose of this First Annual Southern Tarplant Monitoring Report is to estimate the number of surviving individuals after one year of restoration efforts. The site is being monitored and maintained (e.g. weeded, irrigated, cleaned and controlled for pests) by Los Angeles World Airports (LAWA) landscaping staff on an ongoing basis, as advised by UltraSystems Environmental and Endemic Environmental Services.

### *Project Location*

The mitigation site is approximately one acre total and is located near the southwest corner of the LAX airport in an area designated as open space (see Figure 1). The mitigation site is within the current LAX property limits, east of an existing Stormwater Retention Facility along Imperial Highway. This project is located on the NW-SE portion of the Venice USGS Topographic map standard location reference. The mitigation site was considered suitable for southern tarplant reestablishment for several reasons: the site was identified as an ephemerally wetted area, has similar slope and aspect to the impacted site, and already supported five southern tarplant individuals.

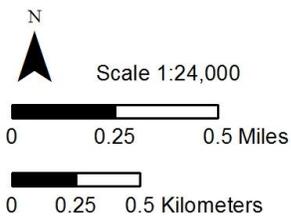
### *Purpose and Background of Project*

The Project serves as mitigation for adverse impacts to a southern tarplant population containing 329 individuals (observed at LAX in 2009) caused by the Bradley West Expansion and Crossfield Taxiway American Airlines Employee Parking Lot Relocation Projects (BWP and CFTP, respectively). A southern tarplant reestablishment effort was made in 2009 and 2010; however, this initial effort failed. In order to comply with their required mitigation of 1:1 plant replacement, LAWA reinitiated efforts in 2010 to restore and maintain a southern tarplant population. The previous STMP was revised as deemed appropriate and a new mitigation site (described above in Project Location) was chosen. For detailed descriptions of the restoration effort, please see the 2011 Southern Tarplant Mitigation Plan (UltraSystems, 2011).



Source: USGS, 2011; UltraSystems Environmental, Inc.; ESRI, 2009

November 3, 2011



**Legend**

Southern Tarplant Mitigation Location

**LAWA  
Southern Tarplant Mitigation**

**Figure 1**  
Topographic Map  
Venice Quadrangle



## **METHODS & RESULTS**

Prior to sowing tarplant seed, the approximately one acre mitigation site was divided into six plots (1a, 1b, 2, 3, 4a and 4b), with each plot selected to receive a different source and/or condition of seed (see Figure 2 and Table 2). Clean seed (i.e. seed with the outer husk removed) purchased from S&S Seed Company (Carpentaria, CA) as well as locally collected seed soaked in water for four days was sown in plot 1a and the western portion of plot 1b; clean purchased seed only was sown into the remaining area of the plot 1b; clean seed collected from the population planned for airport expansion (local seed) was sown in plots 2 and 3; and rough (i.e. seed with the outer husk retained), local seed was sown in plots 4a and 4b. Seed was sown on two occasions; once on January 12, 2011 and again on February 15, 2011.

In September 2011 the abundance of southern tarplant was estimated separately within each plot by one of two methods, depending on overall southern tarplant density. In plots with low overall plant density, the total number of individuals observed in the plot were counted. However, in plots with relatively high overall density, plants were sub-sampled along belt transects.

**TABLE 2: MITIGATION SUBPLOT DESCRIPTIONS**

<b>Site</b>	<b>Size (acres)</b>	<b>Seed Application (hand broadcast)</b>	<b>Site Description</b>
1a/b	0.732	1a: Clean purchased S&S seed and clean and rough local seed collected in 2009 and 2010 1b: Clean S&S seed purchased in 2010	Relatively dry soil with existing “depressions” located throughout the site. Soil in area 1a and the western parts of 1b was tilled with a cultivator. Soaked seeds were hand-sown in this cultivated area, and then a roller was used to tamp seeds into the soil.
2	0.092	Clean local seed collected in 2010	Mesic site (i.e. sustains surface water the longest following watering/rainfall events)
3	0.062	Clean local seed collected in 2010	Semi-mesic area
4a/b	0.061	Rough local seed collected in 2010	Semi-mesic area

In plots with an overall low density of southern tarplant (about 80 percent of plot 1b and plots 2, 3, 4a and 4b), all plants were counted by walking line transects spaced 10 meters apart and that spanned the length of the entire plot. All plants observed 5 meters on each side of a line transect were counted to ensure the entire area of the plot was sampled. The number of plants counted in each plot was then summed to produce a total estimate of 2,235 individual southern tarplants.

In plots with an overall high density of southern tarplant (all of plot 1a and about 20 percent of plot 1b), a single, one-meter-wide belt transect running the length of the plot was sampled. The number of plants counted along the belt transect was then divided by the total area of the belt transect to produce an estimate of plants per square meter. The average number of individuals per square meter was then multiplied by the plot area to produce an overall estimate of 8,592 individuals. By summing the estimates from the low and high density plots, a total of 10,827 southern tarplant individuals are estimated to exist across the mitigation site (see Table 3).

<b>TABLE 3: ESTIMATED NUMBER OF SOUTHERN TARPLANT INDIVIDUALS PER PLOT</b>				
<b>Subplot</b>	<b>Area (sq. ft.)</b>	<b>Individuals Counted in Low Density Plots/Areas</b>	<b>Individuals Estimated in High Density Plots/Area</b>	<b>Plant Density* (Individuals per sq. ft.)</b>
<b>1a</b>	12,648	0	4,560	0.36
<b>1b</b>	18,375	630	4,032	0.25
<b>2</b>	2,925	562	0	0.19
<b>3</b>	1,819	507	0	0.28
<b>4A</b>	1,296	203	0	0.16
<b>4B</b>	1,431	333	0	0.23
<b>Subtotals</b>	--	<b>2,235</b>	<b>8,592</b>	--
<b>Total Estimated</b>	<b>38,494</b>	<b>10,827</b>		<b>0.25 (Average)</b>

\*Plant density equals the total number of individuals divided by the approximate area of the plot.

Plot area was estimated using Google maps.



Source: Bing Maps, 2010; UltraSystems Environmental Inc., 2011

November 3, 2011

0 80 160 Feet

0 25 50 Meters



**Legend**

- 2011 Mitigation Area
- 2009 Mitigation Area  
Former site (germination unsuccessful)

**Figure 2**

BWP & CFTP Mitigation Areas



\*All seed collected from onsite sources

## DISCUSSION

The ultimate goal of the Southern Tarplant Mitigation Plan was to reestablish at least 329 plants after five years, which is the number of plants impacted by the Bradley West Expansion and Crossfield Taxiway Parking Lot Relocation Projects. With over 10,800 healthy individuals currently thriving in the mitigation area—over 32 times the final target number—we conclude that the reestablishment effort to date has been very successful. Furthermore, southern tarplant appears to be the most dominant plant species in the restoration areas.

The density of southern tarplant does appear to differ among the field plots (see Table 3, last column). Although no statistical comparisons were performed, plots 1a, 1b and 3 appear to contain greater densities of tarplant than plots 2, 4a and 4b. Reasons for this apparent difference are most likely the result of environmental differences among the plots, perhaps related to soil quality or land use history. Alternatively, seed quality among purchased versus local, field collected seed could have differed. Purchased seed sowed in plots 1a and 1b only tended to show higher rates of germination and/or survival than field collected seed on average, assuming they were sown at equal density. Effects of seed source versus site quality cannot be separated at this particular mitigation site, so the explanation for this variation in plant density remains unclear. Site 1a and western portions of site 1b also had received additional soil preparation and tamping post-seeding, and were seeded an additional time with pre-soaked local seed, some of which had already begun to germinate. This difference in planting methods may also have played a role in the observed variation in plant density. In contrast, plot 2 had received very little soil preparation due to the nature of the soils.

Other native plant species were observed on the mitigation site, and appear to have increased in number since the seeding effort in January of 2011. However, populations of these species were not measured or documented prior to project implementation. Species observed include fasciculated tarplant (*Deinandra fasciculata*), deerweed (*Lotus scoparius*) and telegraph weed (*Heterotheca grandiflora*). These plant species share similar traits and habits with the southern tarplant including a short life-cycle, high reproductive rate and preference for growing in open areas with moderate disturbance.

A few wildlife species were also observed utilizing the southern tarplant habitat. California buckeye butterfly (*Junonia coenia*), a bee fly species and a corn web spider (*Argiope* spp.) were seen directly on southern tarplant individuals. Additionally, a Say's phoebe (*Sayornis saya*) was observed foraging for flying invertebrates on the site. These plant-pollinator and predator-prey interactions are indications that the restoration is affecting more than just the plant community, but enhancing ecosystem diversity and functioning at higher trophic levels.

For additional information about site progress, scans of the field monitoring logs and photographs of southern tarplant growing on the mitigation site are provided in Appendix A and Appendix B.

## **RECOMMENDATIONS AND FUTURE MONITORING**

In summary, the biologists have completed the first year of monitoring of the southern tarplant mitigation project and found all activities to be compliant with the STMP, with all first-year performance standards exceeded. Based on this first annual monitoring survey, the southern tarplant mitigation site has no immediate or necessary maintenance issues that need to be addressed. However, weed abatement during the upcoming growing season will likely be required. Evidence of senesced tocolate (*Centaurea melitensis*), a common exotic annual of Southern California habitats, was observed in several of the mitigation plots. Along with other invasive plant species, it should be monitored and removed during the general growing season (December to June) to ensure that they do not increase in diversity and/or density.

We expect the southern tarplant population to continue to flourish for the duration of the monitoring period and beyond. As prescribed in the STMP, the biologists will continue to conduct quarterly monitoring visits to oversee population establishment and provide recommendations for treatment of exotic plant species. Quantitative performance data will be collected during the Fall 2012 monitoring visit (as specified in the STMP and the 90-Days Southern Tarplant Establishment Report) in order to monitor southern tarplant abundance. The quarterly monitoring and annual monitoring reports will include an analysis of the quantitative performance data and discussions regarding the project's progress towards sustainability.

**REFERENCES**

LAWA/UltraSystems/Endemic Environmental, April 2011a. Southern Tarplant (*Centromedia parryi* ssp. *australis*) Mitigation Plan.

LAWA/UltraSystems/Endemic Environmental, April 2011b. Southern Tarplant (*Centromedia parryi* ssp. *australis*) 90-Days Establishment Report.

LAWA/UltraSystems/Endemic Environmental, July 2011c. Southern Tarplant (*Centromedia parryi* ssp. *australis*) Quarterly Report.

**APPENDIX A**

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**Photo Documentation**



**Photo 1.** Southern Tarplant at Site 1a



**Photo 2.** Southern Tarplant at Site 1b



**Photo 3.** Southern Tarplant at Site 2



**Photo 4.** Southern Tarplant at Site 3



**Photo 5.** Southern Tarplant at Site 4a



**Photo 6.** Southern Tarplant at Site 4b

**APPENDIX B**

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**Fall 2011 Field Monitoring Logs**

1A

# LAWA Southern Tarplant Annual Monitoring | 2011

## Observations/Recommendations

This plot has 1000s of Southern tarplant growing on the site. ~~There is~~ NO recommendations at this time.

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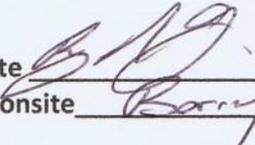


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LAWA Escort: Peggy Nguyen

Signature of Restoration Ecologist Present onsite   
 Printed Name of Restoration Ecologist Present onsite Barry Nerhus

For any questions, please contact:

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# LAWA Southern Tarplant Annual Monitoring | 2011



Site Location: LAX  
 Date: 9/29/2011  
 Time: 09:35  
 Plot Number: 1B

Observers: BN, DN  
 Cloud Cover(%): 100  
 Temperature(F): 68°

**General Site Conditions:**

*This site is doing well. No damage or vandalism. There are many southern tarplant growing on the site.*

**Qualitative Site Observations:**

Item	Yes	No	Remedial Actions Needed
Trash Present	—	X	_____
Irrigation required	—	X	_____
Vandalism	—	X	_____
Photos Taken	X	—	_____
Herbivory Damage	—	X	_____
Are there Problem	—	X	_____
Weed species?	—	—	_____
So. Tarplant Present?	X	—	_____

**Overall Southern Tarplant Conditions:**

Description	Yes	No
Germinating	—	X
Seeding	XXXX	—
Senescence	XXXX	—
Flowering	XXXX	—
Healthy	XXXX	—
Disease	—	XXXX
Wilting	—	—
Yellowing	—	XXXX

**Southern Tarplant Metrics**

4560

Quantity (# of individuals)	Estimated Density (Quan./m <sup>2</sup> )	Estimated Density (Quan./Plot)
		Q1: 33 Q9: 12
		Q2: 44 Q10: 5
		Q3: 22 Q11: 4
		Q4: 26 Q12:
		Q5: 25 Q13:
		Q6: 11 Q14:
		Q7: 14 Q15:
		Q8: 15 Q16:

16m x 15m

19/m<sup>2</sup>

Observations/Recommendations

This is the densest area of Southern tarplant  
~~on the~~ that was planted.

There are no recommendations needed.

LAWA Escort: Peggy Nguyen

Signature of Restoration Ecologist Present onsite [Signature]  
Printed Name of Restoration Ecologist Present onsite Barry Nerhus

For any questions, please contact:

Barry Nerhus, Jr.  
Restoration Ecologist  
President  
Endemic Environmental Services, Inc.  
Office: (714) 625-8260  
Cell: (714) 393-6249  
Email: bnerhus@endemicenvironmental.net

# LAWA Southern Tarplant Annual Monitoring 2011



Site Location: LAX  
 Date: 9/29/2011  
 Time: \_\_\_\_\_  
 Plot Number: 2

Observers: DN, BN  
 Cloud Cover(%): 100  
 Temperature(F): 68°

**General Site Conditions:**

There is a lot of annuals that have died  
The ponded water is dry. There are 1003 of ~~plants~~ S.T individuals.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Qualitative Site Observations:**

Item	Yes	No	Remedial Actions Needed
Trash Present	—	<input checked="" type="checkbox"/>	_____
Irrigation required	—	<input checked="" type="checkbox"/>	_____
Vandalism	—	<input checked="" type="checkbox"/>	_____
Photos Taken	<input checked="" type="checkbox"/>	—	_____
Herbivory Damage	—	<input checked="" type="checkbox"/>	_____
Are there Problem	—	<input checked="" type="checkbox"/>	_____
Weed species?	<input checked="" type="checkbox"/>	—	_____
So. Tarplant Present?	—	—	_____

**Overall Southern Tarplant Conditions:**

Description	Yes	No
Germinating	—	<input checked="" type="checkbox"/>
Seeding	<input checked="" type="checkbox"/>	—
Senescence	<input checked="" type="checkbox"/>	—
Flowering	<input checked="" type="checkbox"/>	—
Healthy	<input checked="" type="checkbox"/>	—
Disease	—	<input checked="" type="checkbox"/>
Wilting	—	<input checked="" type="checkbox"/>
Yellowing	—	<input checked="" type="checkbox"/>

**Southern Tarplant Metrics**

562

Quantity (# of individuals)	Estimated Density (Quan./m <sup>2</sup> )	Estimated Density (Quan./Plot)
<u>     </u>		
<u>     </u>	<u>     </u>	


|||||  
|||||

Observations/Recommendations

This site was not managed for weeds as supplemented with water. However, there were 1300+ individuals growing on site. Many were small and had already senesced.

No recommendations at this time.

LAWA Escort: Peggy Nguyen

Signature of Restoration Ecologist Present onsite B. N.  
Printed Name of Restoration Ecologist Present onsite Barry Nerhus

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LAWA Southern Tarplant Annual Monitoring | 2011

Observations/Recommendations

The S.T. is growing very large and dense. It appears to be the dominant plant growing on the plot.

We will have to ~~to~~ assess the ~~to~~ habitat in the Spring to see if the F1 generation germinates well.

LAWA Escort:

Peggy Nguyen

Signature of Restoration Ecologist Present onsite

B.N.

Printed Name of Restoration Ecologist Present onsite

Barry Nerhus

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# LAWA Southern Tarplant Annual Monitoring | 2011



Site Location: LAX  
 Date: 9/29/2011  
 Time: 1019 hrs  
 Plot Number: 4A

Observers: BN, DN  
 Cloud Cover(%): 10  
 Temperature(F): \_\_\_\_\_

**General Site Conditions:**

The site is well maintained and the S.T. appears to be doing well.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Qualitative Site Observations:**

**Overall Southern Tarplant Conditions:**

Item	Yes	No	Remedial Actions Needed
Trash Present	—	X	_____
Irrigation required	—	X	_____
Vandalism	—	X	_____
Photos Taken	X	—	_____
Herbivory Damage	—	X	_____
Are there Problem	—	X	_____
Weed species?	—	—	_____
So. Tarplant Present?	X	—	_____

Description	Yes	No
Germinating	—	X
Seeding	X	—
Senescence	X	—
Flowering	X	—
Healthy	X	—
Disease	—	X
Wilting	—	X
Yellowing	—	X

**Southern Tarplant Metrics**

203

Quantity (# of individuals)	Estimated Density (Quan./m <sup>2</sup> )	Estimated Density (Quan./Plot)
<u>     </u>		

4A

Observations/Recommendations

Order of photo points 1) SW, NW, SE, NE

Several native pollinators are present. The site is well weeded allowing for low competition & weeds S.T. to grow with low interspecific competition.

CANMEL is growing adjacent to the site & should be monitored in Spring 2012 to if they are competing

LAWA Escort: Peggy Nguyen

Signature of Restoration Ecologist Present onsite [Signature]  
Printed Name of Restoration Ecologist Present onsite Barry Nerhus

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# LAWA Southern Tarplant Annual Monitoring | 2011



Site Location: LAX  
 Date: 9/29/2011  
 Time: 1029 hrs  
 Plot Number: 4/5

Observers: BN, DN  
 Cloud Cover(%): 0  
 Temperature(F): \_\_\_\_\_

**General Site Conditions:**

The site appears to be well maintained. The Southern tarplant is flowers in multiple growth forms and sizes, which is expected in a natural population.  
 CA. Buckeyes & Bee hives are utilizing the site.

**Qualitative Site Observations:**

**Overall Southern Tarplant Conditions:**

Item	Yes	No	Remedial Actions Needed
Trash Present	—	X	_____
Irrigation required	—	X	_____
Vandalism	—	X	_____
Photos Taken	X	—	_____
Herbivory Damage	—	X	_____
Are there Problem	—	X	_____
Weed species?	—	X	_____
So. Tarplant Present?	X	—	_____

Description	Yes	No
Germinating	—	X
Seeding	X	—
Senescence	X	—
Flowering	X	—
Healthy	X	—
Disease	—	X
Wilting	—	X
Yellowing	—	X

**Southern Tarplant Metrics**

# 333

Quantity (# of individuals)	Estimated Density (Quan./m <sup>2</sup> )	Estimated Density (Quan./Plot)


4B

LAWA Southern Tarplant Annual Monitoring | 2011

Observations/Recommendations

photo points taken SW; NW; NE; SE  
The plot is doing well. ~~There are~~ Most plants are currently flowering.  
There is a large population of CEN MEL that could compete with the ST. We can assess the competition in the Spring 2012 ~~to~~ to see if there is an effect.

LAWA Escort: Peggy Nguyen

Signature of Restoration Ecologist Present onsite [Signature]  
Printed Name of Restoration Ecologist Present onsite Barry Nerhus

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