CASE STUDY

On-Call Environmental Services Keep Progress Flying

To support Southern California's regional aviation demands, Los Angeles World Airports needed environmental and technical consulting services on demand to deliver high-quality support, ready to address any environmental challenge.

Challenge

Los Angeles World Airports (LAWA) is the aviation authority for the second-largest city in the U.S. and hub of one of the world's most populous metropolitan areas. As such, LAWA faces numerous challenges in providing an airport system to serve a major portion of the Southern California market. LAWA owns and operates Los Angeles International Airport (LAX) and Van Nuys Airport (VNY) and has land holdings in Palmdale.

LAWA's large and complex aviation facilities require a broad scope of environmental services on standby. As part of its commitment to high-quality environmental services and regulatory compliance, LAWA has selected Burns & McDonnell for on-call environmental and technical consulting services to support its operations.

Project Stats

Client
Los Angeles World Airports

Location
Los Angeles, California

12
environmental support categories

20
task orders completed

68.8%
small and diverse business utilization spend

Solution and Results

Under a second consecutive four-year contract, our team is providing services for air and water quality, hazardous materials, petroleum storage tanks, site investigations and environmental management, sustainability, and more.

Greenhouse Gas Emissions

In support of the California Air Resources Board (CARB) and its mandatory greenhouse gas emissions inventory and regulatory program, we worked with subcontractors to analyze and assess LAWA's emissions program and verify the submittal to CARB through the Cal e-GGRT reporting tool. The verification subcontractor evaluated any potential conflicts of interest, identified the scope of verification and conducted the verification process, which included a site visit and emissions data analysis. Through these efforts, a verification report was submitted to and accepted by CARB.

The Federal Aviation Administration (FAA) Voluntary Airport Low Emissions (VALE) program creates funding incentives for airports to implement clean technology projects that improve air quality. Working with our subcontractors, we submitted a VALE application for the purchase and installation of charging infrastructure for electrical ground support equipment (eGSE). Use of the Aviation Environmental Design Tool (AEDT) quantified the conversion to eGSE. An implemented VALE compliance tracking plan was successfully submitted to the FAA, which resulted in funding for the future installation of 48 fixed charger units, 14 mobile charger connections and 6 mobile charger units in fiscal year 2026.

Drinking Water

Through weekly site visits under the direction of our certified operator, our water resources team monitors the Palmdale facility treatment system chemical dosage and a suite of water quality constituents. We prepare and submit monthly, quarterly and annual monitoring reports to the state board to keep the facility in compliance with drinking water regulations.

We also conduct emergency response procedures as needed. In 2020, we completed the renewal for the facility's drinking water permit, which served as the guiding compliance document for the next five years.

Our water resources team conducts routine monthly potable water sampling at various designated sampling locations throughout LAX. Each monthly service consists of sampling 10 separate accessible airside locations and performing sample analysis at a drinking water certified laboratory.

We also conduct emergency water quality monitoring, including responses to exceedances of water quality standards, and upset events related to a boil advisory, cross-connection or unplanned water main break repair.

Petroleum Storage Tanks

In support of LAWA's compliance with federal, state and local regulations, as well as cooperative relationships with the state's Certified Unified Program Agencies, we have worked with our subcontractors, including small business strategic partners, to perform routine inspections and maintenance of the nine underground and 62 aboveground storage tanks at LAX, VNY and Palmdale.

We also conduct contingency services for as-needed tasks requiring additional engineering, permitting and utility shutdown requests. Our team keeps LAWA's spill prevention, control and countermeasure (SPCC) plans current and conducts annual training for facility employees.

Sustainability

LAWA engaged our team to evaluate 12 sustainability policy business cases for executive review and approval in pursuit of LAWA's sustainability goals. The policies included zero waste, environmentally preferred purchasing, mandatory organics collection and diversion, construction and demolition recycling, sustainable design and construction, efficient lighting, and turf and landscaping replacement policies.

To evaluate the policies, we conducted stakeholder interviews and surveys with LAWA concessionaires, tenants, staff and LAX travelers. We also conducted economic, environmental and social cost-benefit analyses. The economic cost-benefit analysis built pro formas of current and potential scenarios. The environmental cost-benefit analysis estimated carbon dioxide equivalent emissions avoidance for current and potential scenarios. The social cost-benefit analysis assessed stakeholder survey responses on a range of topics, including policy favorability, implementation challenges and business disruption.

The business cases were succinct, metric-heavy deliverables with clear policy recommendations and action items for executive review. LAWA requested a compressed project timeline of six weeks. While the timeline was challenging, the project was delivered on time and on budget.

Zero Waste Plan

LAWA and the City of Los Angeles are continuously looking for new ways to improve operations, including reducing waste generation, increasing diversion, and setting and achieving zero-waste goals. A previous waste characterization study found in 2016 that LAWA disposed of an estimated 18,610 tons of waste in landfills. Our team is working closely with LAWA to develop a Zero Waste Plan (ZWP), a comprehensive road map to achieve zero waste at LAX and VNY in keeping with its sustainability action plan, the city's Sustainable City pLAn, and Mayor's Executive Directive 25. The ZWP evaluates existing operations of LAWA-owned facilities and recommends strategies, performance targets and a monitoring framework for achieving zero waste.

To develop the ZWP, we reviewed existing LAWA waste handling practices and systems, described the current materials management programs (e.g., pilot organics collection, food donation), identified recommended strategies, and established future materials recovery goals and a monitoring framework utilizing key performance indicators. KPIs include waste diversion rates, organics disposal reduction and waste generation per capita, among others, to measure progress toward zero-waste objectives. Some of these goals included improving reduction and recycling programs to achieve 25% and 50% nonconstruction waste diversion rates by 2025 and 2035, respectively.

LAWA looked to our team to increase recycling rates and reduce trash and recycling bin contamination rates by implementing the Recycle Across America (RAA) label standardization effort, which aims to promote the economics and efficacy of recycling and organic waste landfill diversion. To measure the efficacy of the label standardization and employee training, a food waste audit was designed to measure the amount of postconsumer food waste as a preimplementation study. After working with LAWA's waste haulers and processors to create the proper signage, we inventoried the collection infrastructure at LAX's travel area bins, lids and liquid collection stations and created appropriate signage and labels. LAWA employees were trained on implementation of the standardized labels and best practices for recycling at LAX. A post-implementation study was completed to capture data demonstrating the efficacy of the standardized label program. These efforts supported LAWA's planning phase for the rollout of its public-facing organics collection program and the ongoing back-of-the-house organics collection program.

Electrification

As part of an overall evaluation of how the electrification of terminals could impact economics and greenhouse gas emissions, we performed and evaluated the LAX electrification technical and economic feasibility studies.

One study assessed the capabilities of existing electric heating systems to meet terminal heating and domestic hot and chilled water generation needs. We determined the cost and environmental impacts of installing electrical heating systems by focusing on four terminal types — large and small terminals that either connect to the LAX central utility plant or operate independently. An additional study initially focused on the feasibility of eGSE, electric vehicle charging facilities and infrastructure for LAWA-owned property, which later grew into a sustainability-focused program.

Sustainability design and construction criteria were established that formed a foundation to achieve LEED Silver requirements not only for the electrification plans but also for other airport projects in the future. A Green Tenant Program was developed for on- and off-airport tenants that established a priority approach for the numerous sustainability practices that align LAWA-identified stakeholders. It provides grant funding opportunities and grant application support.

Sound Insulation Grant Program

We also partnered with LAWA engineering to provide technical support, construction, regulatory and technical tasks for Inglewood Unified and Lennox school districts as part of the LAWA Sound Insulation Grant Program. Services include school sound insulation oversight and on-site technical support, as well as FAA regulation, policy and industry standards support. In addition to project management and administrative support, we deliver a written monthly summary and other materials as needed.

Interactive Noise Management Portal

LAWA has faced challenges in educating the public about aircraft noise and addressing specific community concerns. Users found its former noise website difficult to navigate, limiting effective communication and engagement. To resolve this, we developed a geo-based customer engagement portal that allows users to filter information by their community and provide tailored reports, flight data and known issues. The portal also features an administrative interface, enabling LAWA staff to update content easily. By utilizing an agile development approach, we integrated key functionalities like the ability to add media content and modify map areas.

The project, which won an ACI-NA Environmental Achievement Award in the Innovative/Special Project category, enables LAWA to proactively engage the public, improve operational efficiency, and create a more transparent dialogue between the airports and surrounding communities. Our ongoing work will inform decisions about the future of LAX terminal development and redevelopment projects.

About Burns & McDonnell

Burns & McDonnell is a family of companies bringing together an unmatched team of engineers, construction and craft professionals, architects, and more to design and build our critical infrastructure. With an integrated construction and design mindset, we offer full-service capabilities. Founded in 1898 and working from dozens of offices globally, Burns & McDonnell is 100% employee-owned. For more information, visit **burnsmcd.com**.

180482247222-1125