



## CASE STUDY

## Free Product Recovery System Installation

### DESCRIPTION

Implementing a strategy to install a remediation system to recover a plume of jet fuel, several million gallons of jet fuel were estimated to be floating on the ground water in a lens up to 7' thick over 20 acres at 100' BGS. At the completion of the installation the system was able remove 1,000 gallons of free product jet fuel from LAX each day. The installation of a Free Product Recovery System at Los Angeles International Airport was a multifaceted project that included the installation of the remediation system; extensive trenching, piping, backfilling, and concrete resurfacing activities; and significant electrical work – all while managing the intricacies of working within active airspace.

### MAIN TASKS

- 3 miles of saw-cutting, breaking & removal, and trenching through 15-18" aircraft-rated pavement.
- Installation of piping – dual containment fuel recovery lines; vacuum lines; ABS compressed air lines; and electrical, signal & fiber optic lines.
- Installation of 250 well vaults (100 Aircraft Rated) with related well head manifolds & components.
- Installation of Free Product Recovery System.
- Installation of complex fiber optic telemetry systems & multiple PLC control main header vaults.
- 6000 PSI flexural strength concrete resurfacing.
- Management of an airport security gate, including escorts for vendors, material suppliers and subcontractors.

### CHALLENGES

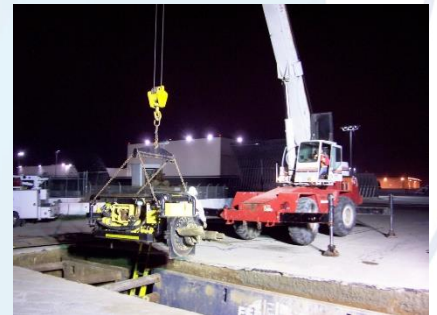
Airport Security Regulations – Working in an active airspace, adhering to heightened security regulations, and coordinating with

LAWA operations, police, fire, and engineering departments required substantial planning and creative solutions. E&E controlled its own access gate at LAX and was responsible for its own security and the vetting and controls of its suppliers, vendors, and subcontractors entering the site.

Highly Restricted Active Airspace – To reach specific areas with minimal disruption, E&E performed horizontal boring beneath active aircraft taxiways during overnight shutdowns and an additional 2,000ft of trenching parallel to active taxiways, aircraft parking areas, and hangars.

### INTERESTING POINTS

- Due to the long distance of conduit runs, a complex control system was implemented which required fiberoptic wiring.
- The project was required to be built in phases – with each being complete and brought online before starting the next.
- Mass production of well head components and well vaults (including prototype creation).



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