

AIRPORTS

	<u>Completion Status</u>
<p><u>NEW BUS MAINTENANCE FACILITY</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> \$20M facility including bus wash, fueling infrastructure, administration, and maintenance areas for a Silver LEED project on seven acre site.</p>	<p>D 2013</p>
<p><u>TERMINAL B AND C TOILET ROOM RENOVATIONS</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> New \$6.0M renovation of rest rooms at 15 locations in three phases in Terminals B and C.</p>	<p>C 2011</p>
<p><u>TERMINAL C, HVAC REPLACEMENT, PHASE II</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> \$13.0M replacement of ten original air handling units in attic with two new custom rooftop "penthouse" units, new sprinklers, and new lighting and controls for Departures Level.</p>	<p>C 2011</p>
<p><u>TERMINAL E FIRE ALARM SYSTEM UPGRADE</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Study and implementation of fire alarm system upgrade to improve alarm reporting, reduce false alarms, and synchronize of fire alarm visual signals.</p>	<p>C 2010</p>
<p><u>BUILDING 25 (OLD TOWER) OFFICE RENOVATION</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Renovation of entire floor for two new tenants with new HVAC, lighting, plumbing, and fire protection and new air handling unit in penthouse.</p>	<p>2010</p>
<p><u>BUILDING 25 AND TERMINAL C, PIER D FIRE ALARM UPGRADE</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Design of new fire alarm system for Boutwell Building and new high-rise addressable fire alarm system for Building 25.</p>	<p>2010</p>
<p><u>ELECTRIC AND WATER METER ASSESSMENT FOR MASSPORT AUTHORITY</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Survey, assessment, and implementation of water meters and electro-mechanical and electronic electric meters at various sites including Logan International Airport, Conley Terminal, Tobin Bridge, Hanscom Field, and Black Falcon Terminal.</p>	<p>S 2010</p>
<p><u>FAA TOWER SIMULATION SYSTEM TRAINING ROOM</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> MEP design of new space in Terminal C for FAA for pilot training on flight simulator.</p>	<p>2009</p>
<p><u>MASSACHUSETTS STATE POLICE HEADQUARTERS AT LOGAN INTERNATIONAL AIRPORT</u> <i>East Boston, MA</i> \$9.5M, 40,000 SF renovation of Building 11 for relocation of Massport State Police Headquarters including Emergency Operation's Center and Data Center.</p>	<p>2009</p>

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AIRPORTS (Continued)

**Completion
Status**

**US AIRWAYS HANGAR - FIRE ALARM UPGRADE AND DELUGE VALVE
REPLACEMENT**

2009

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Design of new \$500K addressable fire alarm system throughout the building, and replacement of deluge valves in hangar area activated by new linear heat detection system.

TERMINAL C, HVAC REPLACEMENT, PHASE I UPGRADE TO ARRIVALS LEVEL

2008

LOGAN INTERNATIONAL AIRPORT MPA L775-C2
East Boston, MA

\$5.0M replacement of two original air handling units for Arrivals Level. Refer to 2011 for Phase II Departures Level project.

TERMINAL B, PIER A, FIRE ALARM UPGRADE

2008

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Design of \$1.0M fire alarm upgrade to new analog addressable system and removal of old multiplex system.

SWITCHGEAR C.T. REPLACEMENT

2007

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Replacement of existing 15kV current and voltage transformers for revenue metering within primary switchgear at 12 tenant buildings around the airport site.

MASSPORT 600V METERING SPECIFICATION

**S
2007**

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Development of specifications, standard wiring diagrams and requirements for meter sockets, current transformers, wiring, and electronic meters for Massport's metering division to be used by all tenants at Logan Airport.

SHORT CIRCUIT AND COORDINATION STUDY

**S
2006**

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Preparation of a comprehensive short circuit and coordination study of existing 15kV, 5kV, and 480/277V electrical distribution system at Logan which includes four main 15kV utility substations, five 15kV switching stations, 35 double-ended and single ended 480V substations, and sixty other outdoor pad mount locations. Documentation of existing one-line diagrams and existing relay and protective equipment settings. Recommended changes for proper application and protection, and development of an implementation program to keep the study up to date.

LOGAN FIRE ALARM UPGRADE STUDY

**S
2005**

LOGAN INTERNATIONAL AIRPORT
East Boston, MA

Preparation of an independent study which includes an evaluation of the existing fire alarm system at Logan International Airport. Report addresses such issues as emergency evacuation paging, speaker coverage, remote paging stations and fire command centers for firefighter personnel in the Terminals, central station issues and alarm reporting; the adequacy of current testing procedures; evaluating benefits of separate fire alarm maintenance division, and transmission of all Tenant alarms over fiber optic cable.

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<p><u>NEW TERMINAL A FACILITY</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i></p>	<p><u>WORLD'S FIRST LEED CERTIFIED AIRPORT FACILITY 2006</u></p>	<p>2005</p>
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Design of electrical systems for new \$400M Terminal for Delta Airlines consisting of a replacement terminal, a satellite terminal, and a passenger/utility tunnel for a total of 670,000 SF. Fit-out work included two Delta Crown Rooms and utility services for 35 retail tenants. In addition, TMP designed a new 15kV NSTAR utility substation to be owned and operated by Massport to serve the new Terminal A, and also tied via new 15kV feeders to the other three NSTAR substations at Logan, as well as to other 15kV switching stations in other terminals. Also designed roadway and airside lighting, fiber optic tie-ins for access control, CCTV, fire alarm, power monitoring, EMS, and data to and from other locations at the airport.

<p><u>TRANSPORTATION SECURITY ADMINISTRATION</u> T.F. GREEN AIRPORT <i>Warwick, RI</i> MEP design for new office spaces in Main Terminal.</p>		<p>2003</p>
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<p><u>RHODE ISLAND AIRPORT CORPORATION (RIAC)</u> T.F. GREEN AIRPORT <i>Warwick, RI</i> MEP design for new I.T. Server Room.</p>		<p>2003</p>
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<p><u>TERMINAL A CARRIER RELOCATION</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> MEP design to support emergency 120 day relocation of six airlines to Terminals B, C, and D in order to evacuate existing Terminal A building and demolish for new building. Intense design and construction related activities; \$9M project.</p>		<p>2002</p>
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<p><u>SECURITY IMPROVEMENTS</u> T.F. GREEN AIRPORT <i>Warwick, RI</i> MEP design for CTX Baggage Screening Units at Main Terminal.</p>		<p>2002</p>
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<p><u>UNITED AIRLINES HANGER FACILITY @ LOGAN INTERNATIONAL AIRPORT</u> <i>East Boston, MA</i> 66,000 SF fabric enclosed steel structure with 80 foot high 253 foot span and state-of-the-art high expansion foam fire protection system to serve up to Boeing 777 size aircraft.</p>		<p>2001</p>
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<p><u>U.S. AIRWAYS TERMINAL B CONSOLIDATION</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Design of electrical systems for 70,000 SF addition and renovation for U.S. Airways at Terminal B including relocation of GSE facility, demolition of existing CFR facility, new 2,000kVA substation, and 300kW emergency generator. Design of new 15kV Switching Station to serve entire Terminal B facility of 1.4 MSF including U.S. Airways, American Airlines, Garage, and FIS facility. Design also included new high-mast ramp side lighting.</p>		<p>2000</p>
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ELECTRICAL UPGRADES TO PASSENGER LOADING BRIDGES

2000

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.766

East. Boston, MA

Design of electrical systems to provide capacity and distribution within Terminals A, B, C, and D for 400 hertz power and point of use pre-conditioned air at aircraft gates. Prime Consultant.

MISCELLANEOUS ELECTRICAL UPGRADES

1998

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.724

East. Boston, MA

Design of 15kV vacuum circuit breakers and solid state protective relays at two major substations, 70 in all, including four incoming utility breakers, revenue metering, and bus protection schemes. Also included was removal of 5kV systems and replacement with new 15kV systems, and new 15kV dual selector switches and feeders at three hangers. Complete construction supervision. Approximately 40 service cut-overs during construction. Prime Consultant.

UTILITY DELIVERY SYSTEMS

1998

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.654

East. Boston, MA

Design for relocation of all low tension systems from the existing to new steam tunnel at West Garage including security card access, communications fibre optic, energy management, fire alarm, parking-revenue control, and electrical monitoring (IMPACC) system.

LAGUARDIA AIRPORT CENTRAL TERMINAL EAST AND WEST FOOD COURT AND RETAIL SPACES

1996

New York, NY

Renovations to 15,000 SF of existing terminal space to create food service tenant and retail tenant spaces along with seating areas. TMP provided the shell and core design and developed tenant criteria for use by tenant fit-out designers.

PHILADELPHIA INTERNATIONAL AIRPORT TERMINAL B/C IMPROVEMENTS

1996

Philadelphia, PA

Renovations to 76,000 SF departures area, arrivals area and creation of new food service tenant and retail tenant spaces. Common area seating is included with the Food Court. Food and retail spaces are being provided as shell and core spaces for future fit-out by tenants. Mechanical and electrical systems are being completely revised to suit new space arrangement. TMP is representing the retail-food area developer, and reviewed the work of the design team and set criteria for the design of the tenant spaces.

LAGUARDIA AIRPORT CENTRAL TERMINAL FOOD COURT AND RETAIL SPACES

1995

New York, NY

Renovations to 50,000 SF of existing departures area, arrivals area, a creation of new food service tenant and retail tenant spaces to provide up to date facilities. Common area seating is included with the Food Court. Food court and retail spaces are being provided as shell spaces for fit-out by tenants. Mechanical and electrical systems shall be completely revised to suit the new arrangement. TMP represented the retail and food area developer, reviewed the work of the Port Authority of New York and New Jersey, and set criteria for the design of tenant spaces.

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UNITED AIRLINES INTERIM HANGAR FACILITY @ LOGAN INTERNATIONAL AIRPORT

1993

Boston, MA

32,000 SF fabric enclosed steel structure with 175 foot span to serve Boeing 737 aircraft, \$2 million facility.

ELECTRICAL DISTRIBUTION IMPROVEMENTS

1992

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.495A

East. Boston, MA

Design of major electrical renovation of Terminal C eliminating 5kV substation and distribution and providing new 15kV services, Switching Stations and double-ended substations with castcoil transformers. New penthouses had to be designed to accommodate switching stations and switchgear to permit minimum downtime during service cut-overs. Primary underground feeders were brought from four existing airport substations.

REPLACEMENT OF HIGH VOLTAGE INTERTIES

1990

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.473

East. Boston, MA

Design of replacement cables for intertie 15kV feeders between Porter Street and Wood Island Substations and totalized metering cable, new 15kV feeders to Heating Plant and Pumping Station. Prime Consultant.

RENOVATION OF OLD TOWER AND TERMINAL D FOR ADMINISTRATIVE OFFICES

1989

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.318

East. Boston, MA

Design of new normal and emergency power and lighting for renovated Administrative Offices in old FAA Tower, and State Police and Medical Offices in Terminal D. Design included high-rise fire alarm system for old tower.

NEW COMPUTER ROOM IN BOUTWELL BUILDING

1988

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.339

East. Boston, MA

Design of lighting and power for MIS Computer Room in Boutwell Building.

ELECTRICAL DISTRIBUTION IMPROVEMENTS

1987

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.237

East. Boston, MA

Design of new utility company service to Bird Island Flats Substation including modifications to protective relaying and routing of 5,000 feet of feeder cable through underground ductbank system. Survey and documentation of existing manholes and ductbanks. Short circuit study. Prime Consultant.

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