

GO Transit Union Station Train Shed Revitalization 65 Front Street West

CLIENT

Metrolinx

LOCATION

Toronto, Ontario

Project Description

Metrolinx is undertaking the largest transportation investment in Ontario's history while also operating GO Transit, UP Express and PRESTO. It presents a unique opportunity to plan, build, operate and connect transportation in the Greater Toronto and Hamilton Area.

When the Province of Ontario created Metrolinx as a new regional transportation agency in 2006, the challenges of under-investments in transit were mounting. Metrolinx was tasked to work with federal, provincial and municipal partners, the private sector and other stakeholders to create an integrated transportation system that would support a higher quality of life, a more prosperous economy and a healthier environment.

The restoration of the train shed is a major component of the Union Station renewal project. The objective is to restore the east and west portions of the train shed totalling 322,000 sq. ft. and to replace the central 54,000 sq. ft. with a large glass atrium. The glass atrium will float over the tracks, providing daylight at platform level as well as a visual connection from the station to the waterfront. A green roof and photovoltaic system will improve the view of the roof. The whole project is to be completed in 11 phases.

B&M Scope of Work

Black & McDonald contributed to the development of the train shed by providing all project management, supervision, labour, equipment, and materials to deliver the electrical scope of work, including:

- New 13.8 kV and 600 V switchgear and modifications
- 12 new electrical and communications rooms to service 12 platforms
- 5 x 600 V distribution boards, 40 branch panels, 32 distribution transformers
- 1 x 60 Kva UPS, 12 x 10 Kva UPS
- Installation of PA system, public information network and CCTV system

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- 22,000 ft. of specialized cable tray
- Installation of cabling for train signaling equipment
- Installation of 4,350 light fixtures including induction type and LED
- Installation of service crossings under Bay Street bridge at Front Street
- Low-voltage lighting control system
- 500 kW generator

This is a transportation and heavy civil project with operational and right-of-way construction activities in a large construction management environment with multiple stakeholders and interfacing involved with various authorities having jurisdiction. The construction is conducted in a live rail corridor, in a fully functioning commuter and transportation environment. The project is successfully moving forward on time and on budget.

Benefits to Client or Problem(s) Solved

Challenges and Innovation

With the project located in downtown Toronto, Black & McDonald's project management continuously coordinated the scope of work with the project's site access plan for making deliveries and accessing the tight areas around the train shed, to improve schedule adherence. To further reduce risks to the schedule, delivery and construction phases were overlapped whenever possible, to minimize idle time on elements of work that could be commenced.

Also on-site storage was limited due to the downtown location. Specific material from the U.S. was needed in large quantities. As the project progressed accordingly, so did the procurement of material. The project team took the initiative to establish off-site storage of cables and material, and pre-scheduled material delivery to the site. This also served to avert any shortfalls due to unforeseen backorder or delays in shipping.

The basis of the construction sequence and tender time became altered during the first phase of the revitalization due to the acceleration and prioritizing of the Union-Pearson Express project. The resulting amendments and revisions to the train shed phase sequence demanded that Black & McDonald continually manage material and trade resources to accommodate changes in daily work and site scheduling.

Sustainability

To meet our recycle and waste reduction strategies, Black & McDonald developed and directed a comprehensive debris construction management and material recovery plan that ensured the disposal of site waste. All on-site staff were educated about the program and encouraged to reduce the overall ecological footprint.