



FCC and OHL achieves the “Substantial Performance” certificate for the project: the Toronto-York Spadina Subway Extension in Canada

19 / 12 / 2017. The Toronto Transit Commission has awarded the Substantial Performance certificate for what is the most significant addition to the Toronto subway system since the original Spadina Line was inaugurated in 1978. Substantial performance certificate is the last contractual milestone and last step towards achieving contract completion.

First transit infrastructure project in Canada for OHL and FCC

The Joint Venture comprising the companies OHL and FCC is in the final stages of its first Canadian transit infrastructure project: Highway 407 station and the Northern tunnels. The contract award has a lump sum value of \$404 million (CAD) (after tax) and is part of the Toronto-York Spadina Subway Extension, with a 3.2 billion-Canadian-dollar budget. The opening of the line is expected to take place before end-2017, once the last construction phase.

Highway 407 Station and Bus Terminal

The Highway 407 Station and adjoining Bus Terminal is envisioned as a transit hub along the Northwest segment of the Toronto Transit Commission's Yonge-University line. The station is situated at the intersection of the Highway 407 Express Toll Route and Jane Street in Vaughan, Ontario. It is comprised of an underground reinforced concrete multi-level structure.

Adjacent the station is a one-storey, three-winged, steel framed Bus Terminal with an 18-bay capacity for York Region and GO Transit buses. Additionally, a 600-space commuter parking lot and 30-space passenger pick-up and drop off area form the final part of the site plan. The construction of the main box station and bus terminal themselves are characterized by large sweeping intricate concrete and steel structural elements. From the architectural point of view it includes an angled 42m long oval skylight, a velodrome-shaped interior steel structure and double-curvature steel-trussed bus terminal roof.

Northern Tunnels

The second core component of the project is the Northern tunnels contract including 3.85 kilometres of twin 6 metre diameter and 3.85 kilometres long Tunnel Boring Machine (TBM) mined tunnels. A 200 metre Sequential Excavation Method (SEM) tunnel, two reinforced concrete box crossover structures, four emergency exit buildings and three cross passages to connect the tunnels.

At present, all works related with the Northern Tunnels contract (as well as the associated contracts for York University Station Siteworks, Steeles West Launch Shaft and Finch West Station Traffic Management) are complete.

A winning work

OHL were awarded the “2015 Major Infrastructure (Canadian) Project of the Year” presented by the Tunnelling Association of Canada (TAC). The central criterion for award consideration was the demonstration of the utmost levels of engineering skill and knowledge of underground construction. In addition, the deadline achievement and safety standards reached during works were highlighted.

During the tunneling phase the rate of mining on average was 21 metres per day with a remarkable one-day maximum of 46.5 metres. In particular, tunnelling beneath sensitive buildings at York University was completed while only causing 3 millimetres of settlement at the surface.

The effective completion of the 200 metre SEM hand-mined tunnel is also considered to be a great accomplishment, because of careful consideration was required due to the tunnel passage beneath existing power transmission corridors and major gas pipelines. This well-known technique, was used for the first time in Canada.

Images of Highway 407 station and the Bus Terminal.