

Port Coquitlam, British Columbia, Canada

Transportation

MANDATE

SNC-Lavalin was contracted to design and build the Coast Meridian Overpass over a fully operational Canadian Pacific Railway (CPR) yard in Port Coquitlam, BC. This much-needed connection between north and south Port Coquitlam required close coordination and proactive management to achieve schedule and budgeting goals, and to minimize impacts to the CPR yard and the travelling public.

DESCRIPTION

Prior to the Coast Meridian Overpass, Port Coquitlam was divided in two by CPR's largest rail yard in Western Canada, which handles 3,000 to 3,500 rail cars, as well as the West Coast Express commuter rail, each day. In order to improve inter-city mobility and connections to other major transportation routes, the Coast Meridian Overpass was deemed an essential connection between Coast Meridian Road and Lougheed Highway to the north, and Kingsway Avenue and Broadway Street to the south.

The project comprised three distinct components:

- North side road and utility works: This four-stage activity reconfigured Coast Meridian Road from Lougheed Highway to St. Albert Avenue and created the new Lougheed-Meridian Connector. Coast Meridian Road included new dedicated right turn and left-turn lanes, bike lanes, and medians. Lougheed Highway received a new eastbound left turn lane into the Best Western hotel, and electrical and signalling infrastructure for the new Lougheed-Meridian Connector intersection.
- A 580-metre, cable-stayed bridge: The design featured a steel, twin box-girder structure with a single plane of stay cables. The structure included four lanes of traffic and facilities for cyclists and pedestrians. Overall, the design resulted in a shallower (by 2 m) and lighter superstructure; lessened steel quantities; lowered the bridge profile and reduced the lightweight approach fill, allowed the twin box-girders to be launched simultaneously, thus reducing the construction schedule, and utilized cable stays and a permanent tower to minimize deflection during the launch. To date, this was the largest push launch done in North America.



Coast Meridian Overpass Project

- South side road and utility works: The three-stage south side road works reconstructed the intersections at Broadway Street and Kingsway, and McLean Avenue and Kingsway. An additional lane and medians were added to Kingsway. SNC-Lavalin also designed all the traffic signals for each intersection.

Key project challenges included accommodating Metro Vancouver's soft, compressible soils, and working with limited space and pre-defined locations for foundation and superstructure design and construction. By sequencing all construction stages carefully, SNC-Lavalin delivered the project on time and on budget.

SNC-Lavalin also implemented and managed comprehensive traffic management, environment, health and safety, and quality management programs.

SERVICES PROVIDED

Design and construction, environmental, communications, traffic, quality, and project management

AWARDS

2011 Award of Merit, Consulting Engineers of British Columbia; 2011 Award of Excellence, Canadian Consulting Engineer; 2012 Honor Award, American Council of Engineering Companies

SECTOR OF ACTIVITY
Bridges

CLIENT
City of Port Coquitlam

YEAR OF COMPLETION
2010