

## Connecting the Gordie Howe International Bridge to the largest ports on the Canada-US Land Border

While work continues on the bridge towers and the buildings at the Canadian and US Ports of Entry, crews are also busy building up the back span, side span and approach span piers that will help connect the Gordie Howe International Bridge to what will be the largest ports of entry on the Canada-US border.

The side span road deck will be supported by 12 pier columns – six each in Canada and the US. Eight columns are named side span piers while the remaining four columns are called anchor piers – two in each country. Work began in 2019 with each pier column extending 30 metres/98 feet into the ground. They are made of steel pipe and reinforced concrete on the Canadian side and steel column topped with concrete for protection on the US Side.



*A look at the side span piers and anchor piers on the Canadian bridge site.*

Approximately 3040 cubic metres/3976 cubic yards of concrete and 700 tonnes/1.4 million pounds of rebar will be used in the construction of the piers. They are built in separate sections or “lifts.” The anchor piers are also topped with pre-stressed cross beams for the road deck to be installed on top. Once complete, the pier columns will range in height from 15.6 metres/51.1 feet to 26.6 metres/87.3 feet. The side span piers are already complete while the anchor piers are scheduled to be finished by late 2022.



Work is now underway on the back span, which is being supported by 18 pier columns – nine each in Canada and the US. These are temporary falsework piers made of steel with concrete bases and post-tension cables. They are erected as construction of the side span road deck progresses. The falsework piers will be removed during the main span construction of the bridge deck.

*Workers are erecting the temporary falsework for the back span piers on the US bridge site.*

Construction of the piers for the approach span, connecting the ports of entry to the road deck and bridge, continue to progress. There will be nine pier columns for the approach span on the Canadian side and 10 pier columns on the US side. Deep foundation work for the piers in Canada started in November 2021 and is now complete. Similar work in the United States began last month. Each pier column extends 26 to 30 metres/85 to 98 feet into the ground to provide a solid foundation.

In Canada alone, that involved more than 300 piling operations. Work is now focused on the footings before building up the pier columns.

Currently 30 per cent of the substructure works for the Canadian approach piers is complete.

Approximately 5,217 cubic metres/6,824 cubic yards of concrete and 684 tonnes/1.5 million pounds of rebar will be used for

the construction of the piers, including the deep foundation work, just in Canada. The approach span in Canada will be approximately 430 metres/1411 feet in length, covering about 35,000 square metres/376,737 square feet of land. The approach span in the US will be about 473 metres/1552 feet in length while covering about 38,500 square metres/414,410 square feet of land. Construction of the approach span piers is expected to be complete by 2024. When finished, the piers will range in height from approximately 6 metres/19.6 feet to 20 metres/98 feet.



*Workers are building up the foundations for the approach bridge span piers.*

The Gordie Howe International Bridge will be a six-lane cable-stayed bridge measuring 2.5 kilometres/1.5 miles in length. With no piers in the water, the bridge will feature a clear span of 853 metres/0.53 miles. It will be the longest composite-deck, cable-stayed bridge in the world.

Construction continues on the inverted “Y” shaped towers that will rise to approximately 220 metres/722 feet. The towers will rival the height of Detroit’s tallest building, the 73-storey middle tower of the GM Renaissance Center. Construction of the bridge deck over the Detroit River is anticipated to begin in 2023.