

INTRODUCTION

With a clear span of 853 metres/0.53 miles, the Gordie Howe International Bridge will have the longest main span of any cable-stayed bridge in North America and the fifth longest in the world. Having the bridge piers located on land, the main section of the bridge will extend over the Detroit River and will be constructed using a technique called the “unbalanced cantilever system” or “stick build.”



Example of stick build construction method: John James Audubon Bridge, Baton Rouge, Louisiana

UNBALANCED CANTILEVER SYSTEM/STICK BUILD

Starting from the main towers or pylons, construction of the bridge will build outward towards the centre of the river, one segment at a time. Each segment consists of structural steel, pre-cast concrete deck slabs, and the cables that hold up the road deck.

In construction, the term cantilever typically refers to a balanced approach with the same level of construction occurring on each side of the tower. However, in this case, the Gordie Howe International Bridge will be constructed in an ‘unbalanced fashion’ with the back span of the bridge road deck being constructed first, with temporary supports that will be removed once the cables are installed.

At the edge of the road deck, a crane will place steel girders, followed by floor beams and redundancy girders to help support the middle of the bridge. Then pre-cast concrete deck slabs will be placed over top, followed by cast-in-place concrete to lock the panels together. The cables will then be lifted by the tower crane into place and secured to the tower. The process for one section is estimated to take up to 12 days. Construction will begin at the towers in both Windsor and Detroit at approximately the same time and will meet in the middle of the bridge over the Detroit River.



Example of stick build construction method: John James Audubon Bridge, Baton Rouge, Louisiana

The materials and equipment needed for bridge construction will be transported over the back span approach to the main span where work is underway. These activities will occur at the bridge deck level, eliminating the need for any water-borne equipment.

CONSTRUCTION TIMING AND RIVER IMPACTS

Construction on the bridge deck over the river is projected to start in 2023.

Given the project will be constructed over water, Bridging North America (BNA) has been and continues to provide information and collaborate with the US and Canadian Coast Guards, Windsor Port Authority, and other relevant agencies to ensure the safety of the marine traffic.

Ongoing communications and consultation will be undertaken with the maritime community to share information in advance of and during construction.

For more information about the Gordie Howe International Bridge project visit www.GordieHoweInternationalBridge.com or call 1-844-322-1773. Follow us on Twitter at www.twitter.com/GordieHoweBrg, like us on Facebook at www.facebook.com/GordieHoweBridge and connect with us on LinkedIn at www.linkedin.com/company/wdba-apwd