

SERVICES

Service Life Modeling
Durability Design
Mass Concrete Thermal Control
Laboratory Testing
Engineering Consulting - Construction Phase

PROJECT SIZE

\$5,700,000,000

KEY PERSONNEL

Mark Dixon, Project Manager
Kyle Stanish, Vice President – Engineering
Neal Berke, Vice President – Research
Paul Tourney, President

REFERENCE

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Tourney Consulting Group (TCG) is currently contracted through the design-build team called Bridging North America, which is comprised of AECOM (designer) and Dragados, Fluor, and AECON (Constructors). TCG is the concrete and below-grade structural steel service life and durability expert for the main span bridge, approach bridges, Michigan interchange ramp bridges, and the Canadian port of entry (POE) return to USA bridge. The entire project includes the design and construction of a 1.5-mile-long cable-stayed bridge which, once complete, will be among the top 5 longest cable-stayed bridges in North America, as well as the USA POE, Canadian POE, and I-75 Michigan interchange roads, bridges, and connecting ramps.

TCG prepared Durability Plans for each structure, which includes service life modeling and analysis for a 125-year service life using a probabilistic approach. The Durability Plans quantified the time-to-degradation for each permanent and replaceable component of the structures and specified all design, material selection, construction, inspection, maintenance, and repair requirements related to durability.

In addition to the Durability Plans, TCG also prepared Thermal Control Plans for the USA tower drilled shafts, Canadian tower drilled shafts, and the USA seawall anchor caps.

Construction is currently on-going and expected to be complete by 2024. TCG is currently the testing laboratory for prequalification of concrete mixtures as well as durability production testing. TCG is also the durability expert reviewer for material acceptance, field design changes, non-compliances, and any concrete durability related issues during construction.