

SERVICES

Durability Design
Service Life Modeling
Construction Phase Consulting

PROJECT SIZE

\$180,000,000

KEY PERSONNEL

Ali Inceefe, Project Manager
Neal Berke, Vice President - Research
Kyle Stanish, Vice President - Engineering

REFERENCE

Edouard Renneville
Senior Bridge Designer
Systra International Bridge Technologies
440 boul. Armand Frappier, bureau 240
Laval, Québec
Canada
H7V 4B4

erenneville@systra.com



The City of Kingston: Third Crossing Project (<https://thirdcrossing.cityofkingston.ca>)
Credit: Brownlie Ernst and Marks (BEaM) Limited

Tourney Consulting Group was contracted through Systra International Bridge Technologies to provide durability design services to meet the 100-year service life design requirement for the new Third Crossing Bridge. This 1.2 km long bridge consists of prestressed concrete girders over 19 spans and steel girders over 3 spans. The durability assessment included analyses of non-replaceable concrete and steel elements. Service life analyses for various concrete elements were performed and the results were summarized to provide key alternatives to the design and contractor teams such as concrete cover and mix design, reinforcing types, and CNI additions. The durability study also included strategies for design detailing, materials selection and prequalification testing, construction quality, inspection, QA/QC of materials and construction, operations and maintenance, and repair to ensure the 100-year service life is met.