

## Autoroute A-25 Project – Main Bridge Innovations

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## Summary

Under Quebec's first Public Private Partnership for a major transportation facility the Quebec Ministry of Transport (MTQ) selected Concession A25 S.E.C. to finance, design, build, maintain and operate the long-planned 7,2 kilometer final link of Autoroute A-25. The project's principal feature is the Main Bridge crossing Rivière-des-Prairies and linking Montreal with Laval. This paper will present Main Bridge design and construction innovations leading to the success of the \$500 million project.

**Keywords:** Long Span Bridges, Cable-stayed Bridges, Design/Build, Design Innovations, Construction Innovations, Composite Steel Construction, Precast Deck, Prestressed Form, Deep Girder, Drilled Shaft

## 1. Introduction

The Basis of Design for the new A-25 Main Bridge was established to meet the applicable provisions of Canadian Standards Association's CAN/CSA-S6 code, but for special long-span structures such as this, additional criteria are needed. These additional criteria included performance based design for wind, seismic, ice and other site-specific provisions. Basis of design for these parameters are project-specific with return periods applied to the specific loading conditions and relating performance objectives. The Main Bridge design is complete and construction is well underway (see Figure 1).



Figure 1- Cantilever Construction of Cable Stayed Spans.

The concessionaire, Concession A25 S.E.C., retained the joint venture of Kiewit-Parsons to serve as the design-build entity of the Public Private Partnership. Once construction is complete, the Miller Group will assume the role of maintenance and operations while the concessionaire holds ownership of the facility during the concession period. Throughout the design phase, project stakeholders jointly participated in Task Force meetings with the objective of achieving project goals not only during the construction phase but throughout the full concession period and also for the remainder of the facility operations once it is turned back to Ministry of