

Design Quality Management of The New Samuel De Champlain Bridge

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1 Abstract

One of the largest bridge projects in North America, the Samuel De Champlain Bridge is a 3.4 km-long viaduct with a signature cable-stayed bridge. The public-private-partnership (P3) project was subject to an accelerated schedule.

A comprehensive ISO 9001 compliant design quality management plan was implemented to ensure that the project was delivered on schedule while meeting the quality objectives. The quality system set the overall framework for major processes during design and construction; this included multiple layers of design reviews and checks, change management, design surveillance, document control, integrated designs, and audits.

This complex project required close collaboration with engineering teams, constructors, stakeholders, and subject-matter experts from around the world. This paper discusses the challenges in setting up and maintaining a unified approach among all entities involved, and how the project was managed by leveraging technologies such as cloud-based project systems, quality training, open lines of communication, and consistent monitoring of processes throughout the course of this fast-tracked project.

Keywords: quality management, design-build, public-private-partnership (P3), fast-tracked schedule

2 Introduction

The 3.4-km-long Samuel De Champlain Bridge in Montreal, Quebec, Canada is key element of the larger \$4.2B Samuel De Champlain Bridge Corridor Project. In 2013, the Government of Canada announced that it would replace the

existing Champlain Bridge employing a fast-track schedule. The Samuel De Champlain Bridge crosses the St. Lawrence River at a location downstream of the old bridge between île des Sœurs (part of the City of Montreal) and the river's South Shore. See Figure 1 and Figure 2.