



**VICTORIA AVENUE BRIDGE
DETAILED INSPECTION, 2005**

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1.0 Introduction

The City of Saskatoon (COS) commissioned Stantec Consulting Ltd. to perform a detailed inspection of the steel trusses, floor beams, stringers, and timber deck of the Victoria Avenue Bridge located in Saskatoon. The purpose of this investigation was to determine if deterioration of the structural members had compromised the safe load carrying capacity of the structure.

Stantec personnel completed the inspection of the accessible portions of the structure while Remote Access Technologies (RAT) provided inspection of portions of the upstream truss not easily or safely reached by conventional means. The inspection occurred over the first few weeks of October and was completed on October 21, 2005.

This report outlines the results of our investigation and examines the data collected in order to develop cost effective repairs for the purpose of extending the service life of the bridge to the greatest extent possible.

Existing conditions, findings from the visual inspections, results of the thickness measurements, and results from the initial structural analysis of the bridge are outlined in Section 2.0 of this report. Discussion of the findings are discussed in Section 3.0 with recommendations and preliminary cost estimates of the repair scenarios summarized in Section 4.0.

A sketch of the typical cross-section and general layout of the bridge is located in Appendix A. Details of the structural analysis are included in Appendix C. The general arrangements of the proposed repair options are presented in Appendix D. A breakdown of the cost estimate for each repair scenario is included in Appendix E and the results of the Life Cycle Cost Analysis is located in Appendix F.

Due to time constraints and the urgency in providing a preliminary report of the findings of the inspection, a complete set of all inspection photographs and member descriptions could not be compiled, and will be submitted under separate cover as Appendix B, at the earliest possible date.