

## Project:

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Burlington Canal Lift Bridge

## Client:

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Delcan & Public Works and  
Government Services Canada  
Burlington, Ontario



## Description:

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The Burlington Canal Lift Bridge has spanned the Burlington Canal, the only shipping channel between Lake Ontario and Hamilton Harbour, since it's opening in 1962.

The bridge span is raised on two towers located at each side of the canal. At the top of each tower is a machine house that contains the main span drive machinery. As the span is raised, a counterweight in each tower is lowered to maintain the bridge's balance.

The bridge requires continuous maintenance to ensure a reliable and safe operation. In partnership with Delcan International Corporation, Byrne Engineering has conducted mechanical inspections of the bridge each year since 1999. These inspections have included condition surveys of such components as wire ropes and sheaves, roller and journal bearings, gears, couplings and shafts. Based on our findings, Byrne Engineering presented recommendations for many repairs to maintain the bridge in good working condition.

Over its lifetime, there have been many modifications

performed on the bridge and its operating procedures. The original operations and maintenance procedures had become out-of-date.

Byrne Engineering developed a new Operations and Maintenance Manual for the bridge. This new manual documents the normal operating procedures and how to deal with anticipated emergency situations. Also new maintenance schedules and repair logs were established.

Some of the bridge components have become obsolete or difficult to find on short notice. A new recommended spare parts list was created to ensure that in the case of an emergency, the bridge could be quickly repaired.

Byrne Engineering has established a relationship with Public Works & Government Services Canada to provide emergency engineering assistance should the need arise.