

Update to Bridge Load Restriction By-law 2020-20

Purpose

This report seeks Council approval to update the Bridge Load Restriction Bylaw to reflect the current state of the City's bridges. In 2016, several individual bylaws setting loading restrictions that were consolidated into one bylaw, 2017-45, which has since been updated in bylaw 2020-20. The above noted bridges now meet the capacity criteria set out in the Canadian Highway Bridge Design Code, thus necessitating an update to the to the current load restriction bylaw 2020-20.

Overview/Executive Summary

As a result of capital investment into bridge replacements, load restrictions on High Falls Road Bridge on High Falls Road in Worthington, Vermillion River Bridge on Moose Mountain Mine Road in Capreol, Roberts River Bridge on Ironside Lake Road in Capreol, Spanish River Road Bridge on Spanish River Road in Worthington and Coniston Creek Bridge on Government Road in Coniston are no longer required. This report will recommend appropriate revisions to the Bridge Load Restriction bylaw 2020-20.

Background

The City retains a structural engineer to perform biennial inspections of all City bridges and large culverts as required by Ontario Regulation 104/97 Standards for Bridges. Through these inspections a structural analysis of High Falls Road Bridge on High Falls Road in Worthington, Vermillion River Bridge on Moose Mountain Mine Road in Capreol, Roberts River Bridge on Ironside Lake Road in Capreol, Spanish River Road Bridge on Spanish River Road in Worthington Coniston Creek Bridge on Government Road in Coniston, Kalmo Road Bridge on Kalmo Road and Walter Street Bridge in Coniston were recommended for load posting.

Subsequent to the bridge load restriction posting for the above noted locations, 5 of these bridges have been replaced through capital infrastructure projects. These load restrictions are no longer necessary for these bridges. The load restriction signs have been removed at the following 5 locations.



Image 1 – High Falls Road Bridge Location



Image 2 – Vermilion River Bridge Location



Image 3 – Roberts River Bridge Location



Image 4 – Spanish River Road Bridge Location



Image 5 – Government Road Bridge Location

Analysis

The City is mandated to have all bridges and large culverts inspected by a Structural Engineer at least once every two years under Ontario Regulation 104/97. The inspection results highlight bridges structural condition and provide recommendations on upgrades and rehabilitation work that need to be carried out by the City. These recommendations form the basis for the City's capital investment in bridges. In addition, part of these recommendations include having a structural analysis/evaluation performed on deteriorated structures to determine if a particular bridge has the capacity outlined in the latest version of the Canadian Highway Bridge Design Code (CHBDC). If the result of the evaluation is that full capacity is not present in the bridge, and then a load restriction is determined, based on the CHBDC.

There are currently 185 bridges and large culverts located in the City that are subject to biennial inspections. With the recommended revisions to the Bridge Load Restriction By-law, the number of load restricted bridges and large culverts in the City will be reduced from 7 to 2.

Next Steps

To ensure that the bridge load restrictions are enforceable and accurately reflect the existing condition of the bridge inventory, it is staff's recommendation to update Bylaw 2020-20 with the appended revised Schedules A and B as follows:

- High Falls Road Bridge (1004) on High Falls Road in Worthington be removed from By-law 2020-20;
- Vermillion River Bridge (4001) on Moose Mountain Mine Road in Capreol be removed from By-law 2020-20;
- Roberts River Bridge (4005) on Ironside Lake Road in Capreol be removed from By-law 2020-20;
- Spanish River Road Bridge (1000) on Spanish River Road in Worthington be removed from By-law 2020-20;
- Coniston Creek Bridge (5016) on Government Road in Coniston be removed from By-law 2020-20;
- Kalmo Road Bridge (3006) on Kalmo Road be load restricted as indicated on attached revised Schedule A;
- Walter Street Bridge (5013) on Walter Street be load restricted as indicated on attached revised Schedule B.

Resources Cited

City of Greater Sudbury, Operations Committee – Item R-3, January 18, 2016

Accessed online:

<https://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&id=997&itemid=min>

City of Greater Sudbury, Operations Committee – Item R-1, December 2, 2019

Accessed online:

<https://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&lang=en&id=1348>