



**B. M. ROSS AND ASSOCIATES LIMITED**  
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File No. 19234

**VIA EMAIL ONLY**

May 23, 2023

Andrew Giesen, Transportation Manager  
Municipality of Middlesex Centre  
10227 Ilderton Road  
Ilderton, ON N0M 2A0

Dear Sir

**RE: Concrete Culvert on Ivan Drive**

At your request, we reviewed the concrete culvert on Ivan Drive, approximately 520 m east of Coldstream Road. The culvert has a span of 2.4m and an overall width of approximately 7 m. The road surface over the culvert is gravel with a width of approximately 6 m. The structure appears to have been built prior to 1960.

During the inspection, we observed a wide vertical crack at on the southwest wingwall that extends diagonally to the abutment face just above the footing. There is also a wide crack at the construction joint between the footings and the west abutment for most of the abutment length, and a similar wide crack beginning between the east abutment and footing at the south end. The presence of these cracks brings into question the stability of the wingwall at the southwest corner and the remaining strength in the base of the abutment walls. For this reason, we recommend that a load limit of **5 tonnes** be applied to this bridge. Given the state of the structure and lack of available drawings, we are unable to analyze the structure for the load carrying capacity but we feel the reduction to minimal loading is prudent considering the level of deterioration that is present. The structure will be added to the Municipality's OSIM database as per your request.

Although it is possible to make repairs to this bridge, generally it is unadvisable to repair a structure that will have width restrictions and load limits after repair. A replacement of the structure is recommended. Without repair or replacement, it is quite possible that we will have to recommend closure after the next scheduled inspection.

This bridge should be inspected again by September 2025.

Please contact us if you require further information or if you have any questions or concerns.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED



Per Nic Gowling  
Nic Gowling, P. Eng.



Per Ken D. Logtenberg  
Ken D. Logtenberg, P. Eng.

NDG:es  
Encl.