



**SPECIAL ROADS SUB-COMMITTEE ELECTRONIC MEETING
AGENDA**

WEDNESDAY, SEPTEMBER 23, 2020 - 9:00 A.M.

(For information on how to join the meeting, please go to the Roads Sub-Committee Meetings page on the Township Website to find the link, Meeting ID and Password)

1. Call to Order
2. Approval of Agenda

Be it resolved that the agenda be approved.

3. Declaration of Pecuniary Interest or Conflict of Interest
4. General Business
 1. 30th Sideroad Timber Culvert Damage
5. Recommendations to Council
6. Confirmation Motion

Be it resolved that all actions of the Members and Officers of the Roads Sub-Committee with respect to every matter addressed and/or adopted by the Board on the above date be hereby adopted, ratified and confirmed; and each motion, resolution and other actions taken by the Board Members and Officers at the meeting held on the above date are hereby adopted, ratified and confirmed.

7. Adjournment

Be it resolved that we adjourn this Roads Sub-Committee meeting.

Kaitlin Chessell

From: Roads
Sent: Wednesday, September 16, 2020 1:19 PM
To: Kaitlin Chessell
Subject: Fwd: 30th Sideroad Timber Culvert Damage - Recommendations and Options for Consideration

Sent from my iPhone

Begin forwarded message:

From: Chris Knechtel <Chris.Knechtel@rjburnside.com>
Date: September 16, 2020 at 12:38:48 PM EDT
To: "Denise B. Holmes (dholmes@melancthontownship.ca)" <dholmes@melancthontownship.ca>, "Craig Micks (roads@melancthontownship.ca)" <roads@melancthontownship.ca>
Subject: 30th Sideroad Timber Culvert Damage - Recommendations and Options for Consideration

Hi Craig and Denise,

I apologize for the long winded email, but wanted to give you all of the information we have regarding the structure on the 30th Sideroad that was recently damaged by farm machinery.

Further to our site meeting yesterday with the Township, and then again this morning with Daniel Dyce from the NVCA, we have the following recommendations and options for the Township to consider for the timber culvert that was damaged by farm machinery over the weekend. The timber culvert structure is located on 30th Sideroad, between 4th and 5th Line, [Google Pin](#). For your reference, there is a link below with some of the photos taken on site of the damage and surrounding area.

Photos:  [200915 - Melancthon 30th Sdrd Timber Structure Damage](#)

Existing Timber Culvert

Span: 1.8 m
Rise: 0.8 m (soffit to creekbed, water height approx. 0.2m)
Length: 7.0 m
Roadway Width: 4.8 m (gravel)
Cover: Approx. 0.5 m in centre of road, 0.3 m on the ends

It is our understanding that on Saturday Sept 12th a large potato digger machine was traveling west bound on 30th Sideroad and the wheel tracks shifted outside the road platform and ended up falling through the timber deck on the south side of the structure and became stuck. Gravel on the SW corner of the structure to assist with pulling the machine out. The timber decking on the south side of the structure essentially slid and was pushed to the south.

Following the site assessment of the structure, our main concern is the east abutment wall has significantly rotated (to the point where some of the base supporting timbers has come loose and separated in the water). Without previously inspecting this structure, it is difficult to tell if this wall was like this before, but the loading from this machine has not helped the situation.

The Township currently has a few barrels along the south shoulder, but has asked for our engineering opinion on the current state of the structure and options for moving forward.

Based on the current condition of the culvert, **our recommendation is to close this portion of road to vehicular traffic until the culvert can be replaced.** Unfortunately, due to the nature of the rotating wall and loss of timbers, repair is not a feasible option.

Options for Township to Consider

- 1) Close Road and Replace Structure under Emergency NVCA Permit in 2020
- 2) Close Road and Replace Structure in 2021
- 3) Temporary Reinstate Structure, apply a 2 tonne load limit posting until structure can be replaced in 2021*

*Option 3 should only be considered if the Township is unable to close the road for some reason.

Options for Replacement

Steel Culverts

1a) Twin CSPs (25-50 yr service life)

1b) Ellipse or Pipe Arch Culvert (25-50 yr service life)

Construction Cost Estimate: **both options approximately \$50k-\$60k +/-**

Concrete

2) Precast Concrete Box Culvert (75 yr + service life)

Construction Cost Estimate: **approximately \$100k +/-**

The cost estimates noted above are high level and are based on the Township sole sourcing a local Contractor to complete the work and guide rail not being required. I would estimate engineering will be approximately \$10k +/- depending on the option selected for the design, permits and construction oversight, however we can confirm a budget depending on how the Township decides to proceed. The limited cover and minimal rise at this site do not allow for a circular CSP steel culvert. We will confirm the proposed sizing prior to making a submission to the NVCA to match or slightly exceed the existing hydraulic capacity.

The NVCA indicated they would be open to supporting the replacement options noted above if they were properly embedded, however their initial preference would be 1b or 2. They understood the emergency nature of this replacement and seemed willing to work with us to come up with a solution that could be implemented in a quick turnaround.

Next Steps

1. Township to close section of road as soon as possible
2. Township and Burnside to obtain a quotation from local Contractor(s) for the replacement work
3. Township to decide which option they would like to proceed with and if the work is to be completed in 2020 under an emergency NVCA permit
4. Burnside to complete culvert sizing, design sketch and submit to NVCA for approval
5. Structure to be replaced in 2020 or 2021 and road re-opened

Let me know if you have any further questions and we will start pulling together some of the NVCA paperwork while the Township makes a decision on how to proceed to ensure that things are ready to go.

Chris



BURNSIDE

Chris Knechtel, P.Eng.
Project Engineer

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COVID 19: We remain open for business

The health and safety of our employees and clients is of paramount importance. Most of our staff are working remotely and continue to serve clients using our well established collaborative technology platforms. For our full COVID 19 response please [click here](#).

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