

October 1, 2009

Ministry of Transportation Ontario
Pavement and Foundation Section
1201 Wilson Avenue
Room 232, Building C
Downsview, Ontario
M3M 1J8

Attention: Mr. Tae Kim, P.Eng.
Senior Foundation Engineer

Mr. K. Ahmad, P.Eng.
Foundation Engineer

Dear Sirs:

RE: Draft Foundation Investigation and Design Reports – Report 1: Proposed Culvert Replacements (Culverts C17, C23, C72, C74 and C80), Report 2: Proposed Culvert Replacements (Culverts C77, C78 and C79) Hwy 522, Townships of Gurd and South Himsworth, GWP 484-98-00, District 54, Sudbury

Further to your memorandum dated May 12, 2009, regarding the captioned projects, the following is our response as requested.

Sheet SC-09 Foundation Layout

- *The foundation reports were not reviewed and signed by the MTO Designated Contact. The MTO Designated contact at Coffey Geotechnics for MTO Foundation Projects is Mr. Zuhtu Ozden. The Final Foundation Investigation and Design Report and Foundation Drawings must be signed and stamped by two Professional Engineers licensed by PEO, one of which shall be MTO Designated contact.*
 - The reports were revised by the MTO designated contact at Coffey for MTO Foundation Projects (i.e. Zuhtu Ozden).
- *Although the same author wrote the two Foundation reports within the same period, there are inconsistencies between the two reports in terms of format and presentation. Please refer to Section 5 of the reports. Some of the inconsistencies are as follows:*

- Although the same author wrote the two Foundation reports within the same period, there are inconsistencies between the two reports in terms of format and presentation. Please refer to Section 5 of the reports. Some of the inconsistencies are as follows:
 - In one Foundation Report the bearing resistances are provided in reference to the boreholes and in the other report they are provided in reference to the culverts. It would make more sense if the recommendations were given in reference to the culvert. Similarly, recommended highest Foundation elevations should be provided in reference to the culverts and not the boreholes.
 - All the foundation options such as open footing culvert, box culvert and pile foundations are discussed in one paragraph. They should be provided under separate sections with advantages and disadvantages discussed in details.
 - Tunneling option is discussed in one report but not in the other report.
 - In one Foundation report existing culverts are summarized in a table format but in the other report they are described in paragraphs.
 - The inconsistencies were looked into in the revised reports.
- The borehole numberings such as FC9-RP1 are very confusing especially when there are so many boreholes. Why couldn't they be simple limited to two characters.
 - We agree with your criticism. As a result, the aforementioned numbering will be discontinued and will be replaced with simpler numbering in our future projects.
- It is recommended that a 1.8 m of frost cover or equivalent should be provided for box and CSP culverts. The inside of the culvert will be exposed to the cold temperature. How the frost protection will be ensured in that case?
 - The MTO standard procedures will be followed for frost protection.
- GWP number is not provided on the title page of the Foundation Report.
- The report should be proof read for any typos. For example see the word "glaciolaustrine" on Page 1 of one report. AECOM vs D.M Wills Associates Ltd on the cover sheet of one report.
- The Geocres Number for Report 1 – (Culvert C17, C23, C72, C74 and C80) is 31E-292 and for Report 2 – (Culvert C77, C78 and C79) it is 31E-293. These numbers should be shown on the cover pages and drawings of the final Foundation Reports.
 - All of the above were implemented.

We hope that the foregoing is satisfactory. We thank you for your fair review of our reports and look forward to working with you on future projects.

For and on behalf of Coffey Geotechnics Inc.



Zuhtu Ozden, P.Eng.
Senior Principal