



MEMORANDUM

Date: December 21, 2015

To: Matthew Leavitt, P.Eng.
Project Soils Engineer
Northwestern Region

Cc: A. DeSira, M.Eng., P.Eng.
Foundation Engineer
and
Ken Ahmed, P.Eng.
Senior Foundation Engineer
MERO-Pavement and Foundations Section

From: Stan E. Gonsalves, P.Eng.
Principal Engineer
Designated MTO Foundation Contact
exp Services Inc.

Re: Addresses on Comments on the Draft Foundation Investigation and Design Report
Wabigoon River Tributary Culvert Replacement, Highway 601, Site No. 41S-253/C,
Township of Van Horne, District of Kenora

Agreement No. 6014-E-0017, Assignment # 8
GWP 6376-14-00
MTO Geocres No. 52F-044

We are pleased to submit the Final Foundation Investigation and Design Report of the above noted project. The final report addresses all comments on the Draft Foundation Investigation and Design Report noted in the MTO letter of December 09, 2015. In particular, **exp's** responses to these comments are:

1. Exp's response to MTO Comment No. 1: *MTO GEOCRES No. 52F-044 is assigned to the Final Report and Foundation Drawings.*

FUNDATION INVESTIGATION REPORT

2. Exp's response to MTO Comment No. 2: *The paragraphs 2 and 3 of Section 1.6 are moved to Section 2.12, pg. 29 and 30 of Foundation Investigation and Design Report.*



FUNDATION DESIGN REPORT

- 3. Exp's response to MTO Comment No. 3: *The advantages, disadvantages and risk associated with the founding options available for the proposed culvert are tabulated in Table 2.1 (see pg.12 and 13) and the preferred option is recommended from a foundation perspective (see pg. 13).*
- 4. Exp's response to MTO Comment No. 4: *Bearing capacity and resistance at ULS and SLS for the open footing culvert founded on loose to compact silt have been reviewed and modified as shown below. No significant granular pad is assumed.*

Culvert Type	Founding Elevation (m)	Assumed Footing Size (m)	Founding Soil Type	Factored Geotechnical Resistance at ULS (kPa)	Geotechnical Reaction at SLS** (kPa)
Rigid frame open footing concrete culvert and corrugated steel plate culvert	~356.6*	1.0	Native loose to compact silt	200	140

- 5. Exp's response to MTO Comment No. 5: *A word "closer" is replaced with "closure" in bullet "1" of section 2.5, pg. 16 and the first paragraph of section 2.5.1, pg. 21 of final report.*
- 6. Exp's response to MTO Comment No. 6: *Exp's response to MTO Comment No. 6: Two Professional Engineers, Silvana Micic and Stan Gonsalves, who is exp's Designated Principal Contact identified for MTO Foundation Engineering Projects, signed and stamped the Final Foundation Investigation Report and the Final Foundation Investigation and Design Report.*

We trust these responses satisfactory address the items raised after the MTO review. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

Silvana Micic, Ph.D., P.Eng.
Senior Geotechnical Engineer
Project Manager

Stan Gonsalves, M.Eng.,P.Eng
Principal Engineer
MTO Designated Contact

