



Via E-mail: stream.shen@ottawa.ca

August 25, 2017

Our File Ref: 130828

City of Ottawa  
110 Laurier Avenue West  
Ottawa, ON K1P 1J1

Attention: Mr. Stream Shen, Planner, Development Review West

Subject: **Addendum to Geotechnical Investigation Report**  
1871 Merivale Road, Ottawa, ON  
Proposed Benson Auto Parts  
Response to Review Comments Received on June 23, 2017

Dear Mr. Shen,

This addendum provides responses to the review comments submitted by the City of Ottawa, dated June 23, 2017. This supplements and provides additional information to the "Geotechnical Investigation Report" completed and submitted by LRL Associates Ltd. (LRL) on October 2014, for the proposed Benson Auto parts Expansion, located in above referenced address.

This addendum should be consulted only in conjunction with the October 2014 report.

Yours truly,  
LRL Associates Ltd.



Alireza Ghirian, Ph.D., P. Eng.  
Senior Geotechnical Engineer

Encl.

- Response to Review Comments
- Appendix A
- Appendix B

## Responses to Review Comments:

1. Please note that the Site Plan has changed since the date of this report. Please review the proposed Site Plan submitted and confirm that the Geotechnical Report dated October 2014 submitted in support of this development application and the findings and recommendations presented are still applicable.

*Response: As the grade raise is minimal, the findings and recommendations presented in Geotechnical investigation Report dated October 2014 is still applicable.*

2. Please update the Site and Borehole Location Plan with the proposed Site Plan.

*Response: please refer to **Appendix A** of this Addendum, for borehole locations within the updated/proposed Site Plan.*

3. Please note that LRL Associates Ltd. is required to submit a letter sealed by a professional engineer licensed in the Province of Ontario to the City signing off on the final Grading Plan to verify that LRL Associates Ltd. has reviewed the proposed grading and accepts that the grading and proposed features are in conformance with the recommendations and conclusions, constraints of the Geotechnical Investigation.

*Response: As a part of this addendum, the final grading plan and proposed features have been reviewed and they are in conformance with the findings, recommendations and conclusions of the Geotechnical Investigation dated October 2014.*

4. Please provide a tree planting restrictions section in the report.

*Response: Please refer to **Appendix B** of this addendum*

5. Please indicate if clay dykes are required for the subject site.

*Response: Clay dykes are not required.*

6. As per the *City of Ottawa Geotechnical Guidelines, September 2007*, Section 3.3.4 *Excavations* where excavations are required to construct buildings the need for a PTTW from the MOE is expected to be discussed. The report should clearly indicate if a PTTW is required so the application process can be completed as the application process is understood to take 4 to 5 months.

*Response: The excavation depth for the site service installation can reach up to 3.5m below grade in the deepest point (in the South-East corner of the site), which would be close or below the seasonal groundwater table depending on the time of year. Therefore, it is recommended to obtain Permit-To-Take-Water (PTTW) from the Ministry of the Environment, due to the expected rate of pumping may exceed 50 cubic metres per day.*

7. Please review the proposed underground StormTech storage chamber system and provide confirmation via a memorandum that the established seasonally high groundwater table depth elevation is a minimum 1m below the bottom of the proposed system as per MOE Stormwater Design Manual. Based on information provided within the report the seasonally high groundwater level has not been established.

*Response: The bottom elevation of the proposed StormTech storage chambers is at 85.80m; 2.72m above the groundwater table elevation measured at the time of the subsurface investigation. To account for seasonal fluctuation, 1.5m is added to the groundwater table elevation; still the bottom of the storage chamber will remain a minimum of 1.0m above the high groundwater table.*

8. Please indicate if clay dykes are required for the subject site.

*Response: Clay dykes are not required.*



## **APPENDIX A**







## **APPENDIX B**

## **TREE PLANTING RESTRICTIONS**

Moisture depletion of silty clay soil caused by water demand of trees is one of the reason of foundation distress and uneven settlements.

When trees draw water from the silty clay (such as sensitive marine clays) during periods of dry weather, the soil undergoes shrinkage which can result in settlement of adjacent structures. The zone of influence of a tree is considered to be approximately equal to the mature height of the tree.

The sandy soil deposit encountered at this site does not appear to be sensitive to water depletion by trees of high water demand. However, it is generally recommended to avoid trees with high water demand to be planted closer to structures than the ultimate height of the trees. Following is a list of the common trees in decreasing order of water demand and, accordingly, decreasing risk of potential effects on structures.

Some common trees in decreasing order of water demand are recommended as follow:

### **Broad Leaved Deciduous:**

Poplar  
Alder  
Aspen  
Willow  
Elm  
Maple  
Birch  
Ash  
Beech  
Oak

### **Deciduous Conifer:**

Larch

### **Evergreen Conifers:**

Spruce  
Fir  
Pine