

**BUILDING EXPERTS
CANADA LTD.**

STORMWATER MANAGEMENT/FEASIBILITY REPORT
PROPOSED ENERGY STORAGE FACILITY
TOWN OF EAST GWILLIMBURY

FILE NO: 2017-042

Aug 08, 2017

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1.0 INTRODUCTION

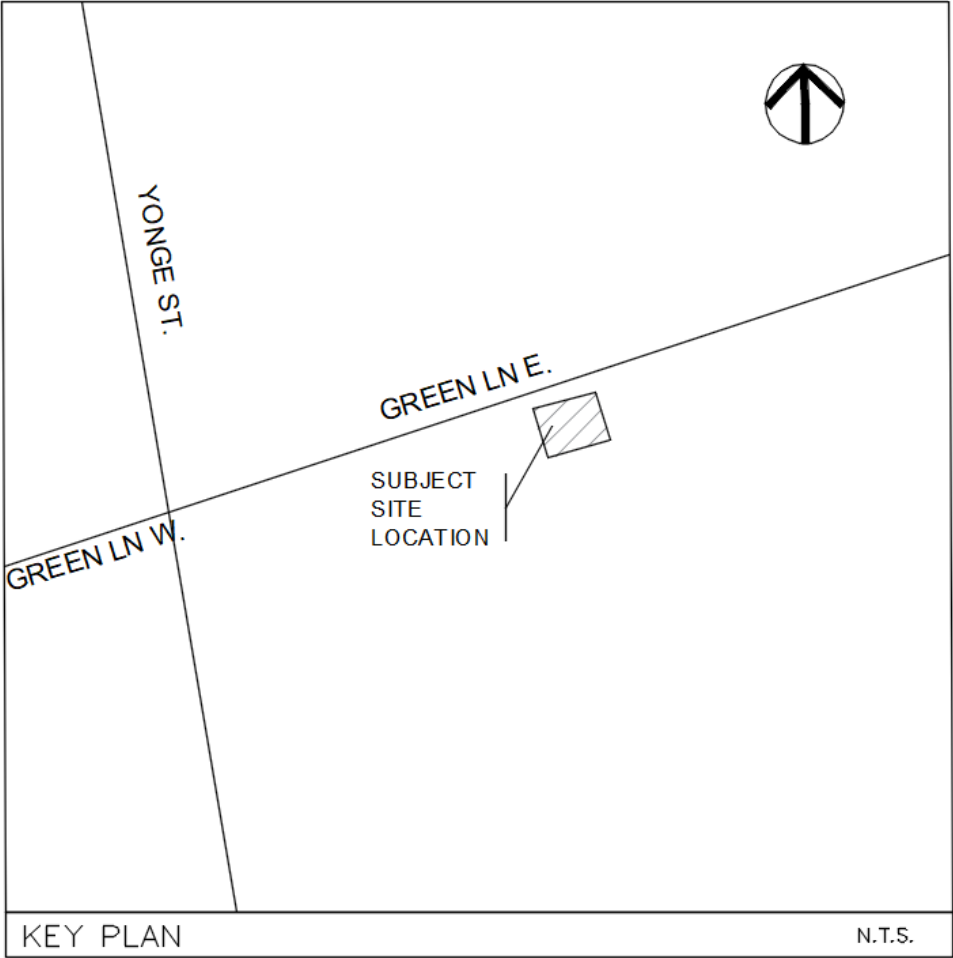
Building Experts Canada Ltd. has been retained by the applicant to prepare a Stormwater Management/feasibility report for the proposed energy storage facility at Green Lane East (Part 11, 65R-22350, PIN 03555-0412), East Gwillimbury.

This property is located in the Town of East Gwillimbury at south of Green Lane East and south east of Yonge Street, as shown in the Key Plan below.

The above noted site presently consists of landscape areas. The total site area is approximately 0.268 hectare.

The Town of East Gwillimbury requires that the stormwater management elements for the above noted site, be addressed as part of site plan approval conditions.

This report therefore, identifies the proposed stormwater management system for this site.



2.0 STORMWATER MANAGEMENT

2.1 DESIGN CRITERIA

The Town of East Gwillimbury requires that the stormwater management system for this proposed site shall be as per the Town Design criteria as indicated below:

Quantity Control:

Post-development peak flows from the proposed development site, be controlled to the 5 year predevelopment peak flow level for 5 year to 100 year storm events.

Quality Control:

A Level-1 quality control (80% TSS removal) shall be designed for this proposed site.

Computer Program:

The computer model 'Visual Otthymo' was utilized to establish the predevelopment and post-development flows for 5 year and 100 year storm events using the rainfall data of the Town of East Gwillimbury (see Appendix 1).

2.2 SITE DETAILS

PREDEVELOPMENT CONDITION

The existing site presently consists of landscape areas as follows;

Existing grass area	0.268 ha
Total site area	0.268 ha
Runoff coefficient	0.25

The existing site areas presently drain to the adjacent creek.

The 5 year predevelopment peak flow = 0.013 cu.m/s

POST-DEVELOPMENT CONDITION

The owners of the subject property wish to install an energy storage facility (D.C. Batteries) which is covered and sealed with non-contaminant materials. Upon installation of the energy storage facility, the site statistics would be as follows;

Proposed energy storage facility	0.042 ha
Proposed paved area	0.040 ha
Existing/Proposed grass area	0.186 ha
Total drainage area	0.286 ha
Composite runoff coefficient	0.45

Stormwater from the site would drain to the adjacent creek upon installation of the energy storage facility. Therefore, a quantity control system is not recommended for this site.

The program ‘Visual Otthymo’ was utilized to establish the predevelopment flow and post-development flow conditions using the rainfall data provided by the Town of East Gwillimbury (see Appendix 1).

The 100 year post-development peak flow = 0.068 cu.m/s

2.3 Quality Control

The subject site would have covered and sealed energy storage facility. There would not be any contamination during any storm event, therefore, a quality control system may not be required for this site.

3.0 CONCLUSION AND RECOMMENDATIONS

A quantity and quality control system is not required since the site drains directly to the adjacent creek and there would be no contamination from the site drainage flow.

It is therefore, recommended that this report be adopted for detailed design if the Town of East Gwillimbury finds the analysis noted herein, acceptable.

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APPENDICES

**BUILDING EXPERTS
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APPENDIX 1

RAINFALL DATA FROM THE
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APPENDIX 2

VISUAL OTTHYMO
PRINTOUT