Stormwater Management Report

Belmont Farm Supply

Project Location:
14000 Belmont Road
Belmont, ON

Prepared For:
Belmont Farm Supply

Prepared by:
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133 Regent Street
Stratford, ON N5A 3W2

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GRIT File No: GE23-0551-1-CIV-SWM-RPT

PASSION, DETERMINATION, RESOLVE

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1.0 Introduction

GRIT Engineering Inc. (GRIT) was retained by Belmont Farm Supply to complete a Storm Water Management Report (report) for the property located at 14000 Belmont Road, Belmont, Ontario and is approximately 3.44 hectares in size. The subject site is zoned as M-1 (Industrial) and M (Industrial), generally bounded by property zoned P (Open Space) to the north, existing Railway to the south and Belmont Road to the west. The proposed development will be comprised of gravel storage area and a warehouse building. The remainder of the site will be comprised of existing buildings, hard surface areas and grassed/landscaped areas and parking. Figure 1 provides an aerial image, illustrating the site location and surrounding characteristics.

This report recommends stormwater management strategies for the Site. This report will discuss the available municipal infrastructure and how the proposed development can be serviced.

2.0 Stormwater Management and Storm Servicing

For the purposes of this application and report, the stormwater management strategy will be considered in the development area, being site specific review.

2.1 Pre-Development Conditions

In the site-specific existing conditions, the property is comprised of existing gravel and grassed areas. The site-specific percent imperviousness for pre-development catchments is as follows:

Catchment 101

The pre-development catchment is approximately 0.04 hectares and calculated to have an imperviousness of 10.0% and directed overland south towards the existing railway and ultimately enter the Barons Municipal Drain (2005).

Refer to Figure 2 for the pre-development catchment area, site characteristics analysis, existing drainage, and overland flow patterns.

Catchment 102

The pre-development catchment is approximately 0.43 hectares and calculated to have an imperviousness of 61.2% and directed overland north towards the existing parkland ultimately enter the Barons Municipal Drain (2005).

Refer to Figure 2 for the pre-development catchment area, site characteristics analysis, existing drainage, and overland flow patterns.

2.2 Post-Development Conditions

In the proposed site-specific condition, the subject site will be comprised of an industrial storage building, with the remainder of the site comprised of gravel are for storage and vehicle movement. The site-specific percent imperviousness for post development catchments is as follows:

Catchment 201

The post development catchment is approximately 0.06 hectares and calculated to have an imperviousness of 94.9% and directed overland north towards the existing parkland ultimately enter the Barons Municipal Drain (2005).

Refer to Figure 2 for the pre-development catchment area, site characteristics analysis, existing drainage, and overland flow patterns.

Catchment 202

The post development catchment is approximately 0.41 hectares and calculated to have an imperviousness of 92.3% and directed overland north towards the existing parkland ultimately enter the Barons Municipal Drain (2005).

Refer to Figure 2 for the pre-development catchment area, site characteristics analysis, existing drainage, and overland flow patterns.

Post Development Recommendation

Due to the available onsite storm sewer depth, existing topographic and proposed grades, the proposed development is unable to outlet to the existing onsite catch basin via gravity flow. Therefore, the proposed flows will generally maintain the existing condition and additionally will reduce the area contributing flows to the existing railway. Roof and surface drainage will be directed towards the west across the proposed gravel area towards the available existing outlet. In consideration of the proposed design and the previously approved stormwater design (K. Smart Associates Limited, January 2, 2018), it is in our opinion that best engineering practice is provided, and additional stormwater management quantity and quality controls should not be required.

Figure 3 illustrates the post development catchment areas, site characteristics analysis, existing drainage, and overland flow patterns.

2.3 Erosion and Sediment Control

Erosion and Sediment Controls (ESC) will be implemented for the site. The proposed measures will include light and heavy-duty sediment control fencing, and silt sacks in the existing and proposed catch basins on-site. All ESC will be installed before construction commences and is to be maintained until the construction is complete with final surfaces and vegetation stabilized with mature growth.

3.0 Conclusions

The proposed industrial development can be serviced by the utilizing the existing condition. The design and calculations included with this report and the appendices establish that the proposed development can be adequately serviced. We trust that this report satisfies the Town's requirements. If there are any questions regarding this report, please do not hesitate to contact our office.

4.0 Statement of Conditions and Limitations

This document was prepared for *Belmont Farm Supply* (the Client) and has been prepared in a manner consistent with that level of care and skill ordinarily exercised by other members of the engineering profession currently practicing in the same or similar locality, under the same or similar conditions, subject to the time limits and financial, physical, or other constraints applicable to the Services.

The recommendations and conclusions provided in this document are applicable only to the specific site, development, design objectives, and purposes that are described in the text and are based on the information that was available and provided to GRIT Engineering Inc. at the time this document was prepared. This document is not intended to be exhaustive in scope and it shall be recognized that the passage of time may alter the opinions, recommendations, and conclusions that are contained in this document. The design is limited to the documents reference and any other drawings or documents prepared by GRIT Engineering Inc. provided separately. GRIT Engineering Inc. accepts no responsibility or liability for the accuracy of any information provided by others.

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Any referenced benchmarks or other known elevations provided in this document should be verified by a registered surveyor prior to use for any other purposes such as planning, development, layout, and/or construction.

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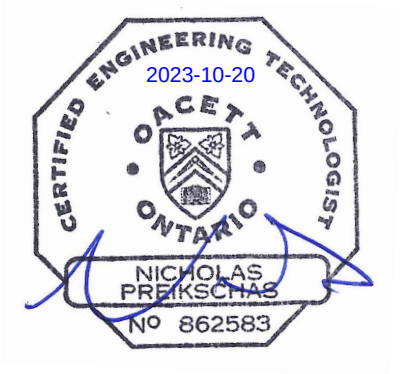
Yours respectfully,

GRIT Engineering Inc.



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Figures

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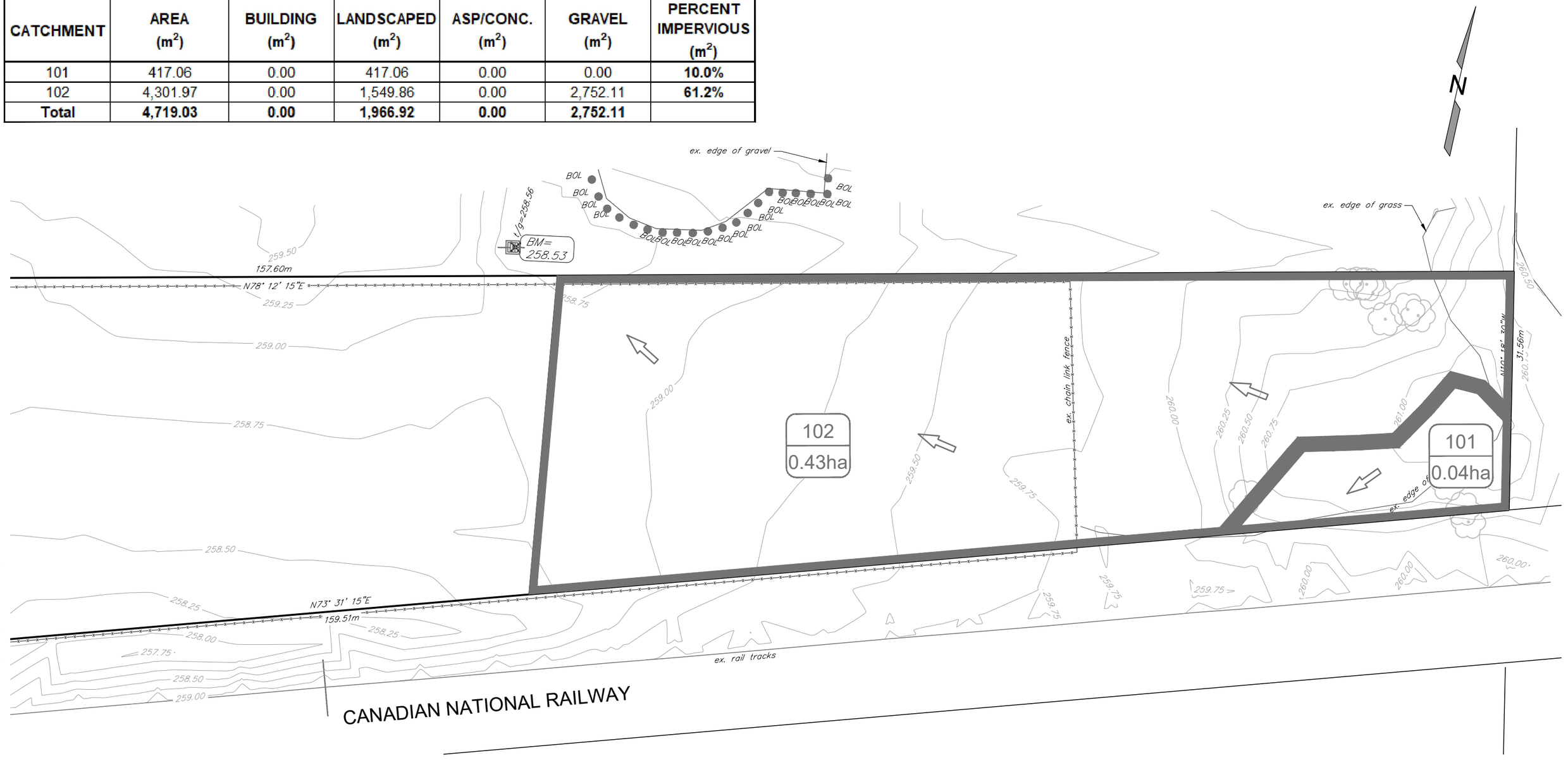
Legend

Project:
BELMONT FARM SUPPLY

Figure Title:
SITE LOCATION MAP
TOWN OF BELMONT

Figure No:
1

CATCHMENT AREA CHARACTERISTICS						
CATCHMENT	AREA (m^2)	BUILDING (m^2)	LANDSCAPED (m^2)	ASP/CONC. (m^2)	GRAVEL (m^2)	PERCENT IMPERVIOUS (m^2)
101	417.06	0.00	417.06	0.00	0.00	**10.0%**
102	4,301.97	0.00	1,549.86	0.00	2,752.11	**61.2%**
Total	**4,719.03**	**0.00**	**1,966.92**	**0.00**	**2,752.11**	



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Legend

CATCHMENT BOUNDARY

CATCHMENT PARAMETER

101
0.123

EX. OVERLAND FLOW ROUTE

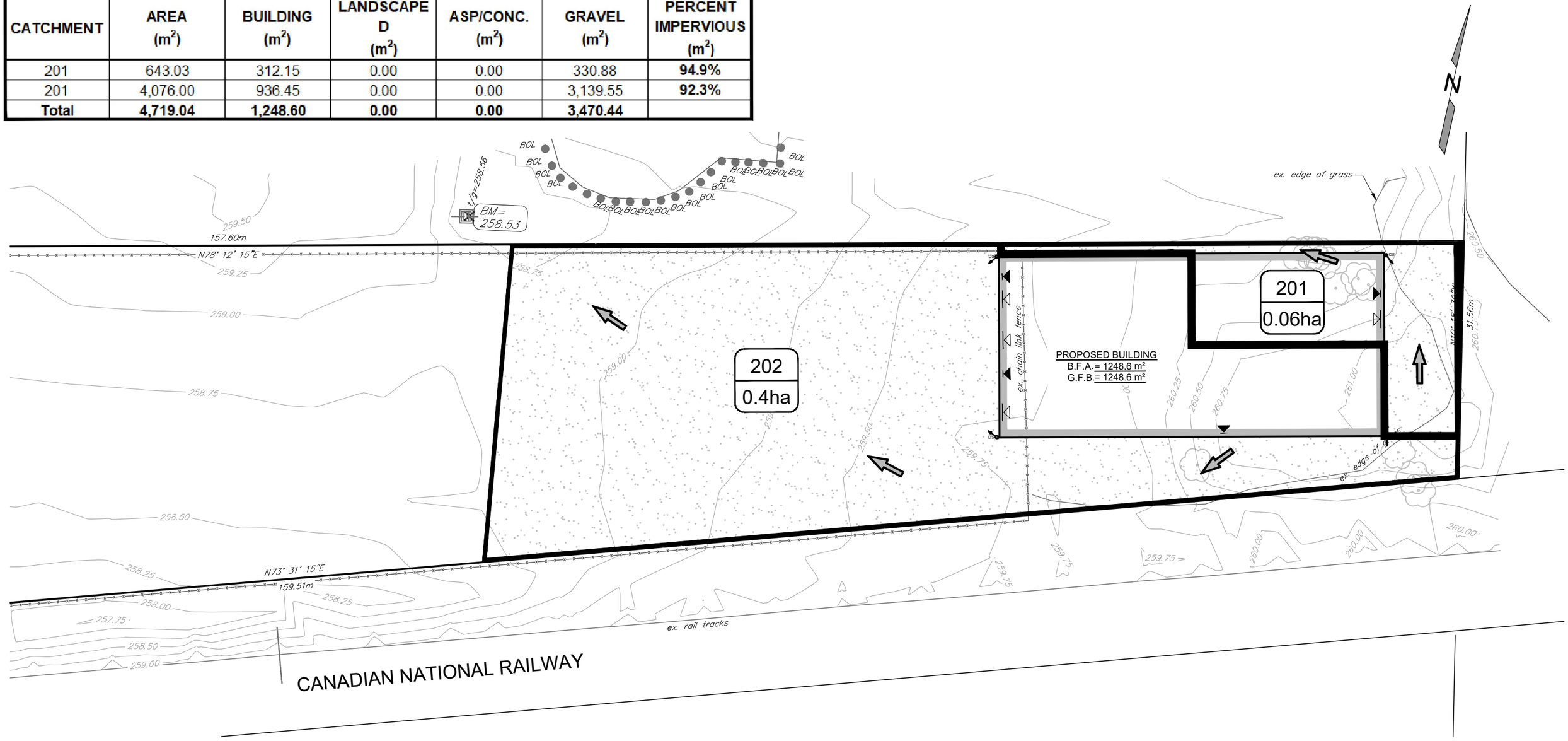
EX. STORM SEWER

Project:
BELMONT FARM SUPPLY

Figure Title:
PRE DEVELOPMENT CATCHMENT

Figure No:
2

CATCHMENT AREA CHARACTERISTICS						
CATCHMENT	AREA (m^2)	BUILDING (m^2)	LANDSCAPED (m^2)	ASP/CONC. (m^2)	GRAVEL (m^2)	PERCENT IMPERVIOUS (m^2)
201	643.03	312.15	0.00	0.00	330.88	**94.9%**
201	4,076.00	936.45	0.00	0.00	3,139.55	**92.3%**
Total	**4,719.04**	**1,248.60**	**0.00**	**0.00**	**3,470.44**	



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Legend

CATCHMENT BOUNDARY

CATCHMENT PARAMETER

201
0.123

Project:
BELMONT FARM SUPPLY

Figure Title:
POST DEVELOPMENT CATCHMENT

Figure No:
3