

136 Bayfield Street and 14 Sophia Street West
Barrie, ON

Phosphorous Budget

PREPARED FOR:
Rockap Holdings Ltd.
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Mississauga, ON L5H 4M5

PREPARED BY:
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PGL File: 5689-02.02

October 2022 v4



solve and simplify

Executive Summary

PGL Environmental Consultants (PGL) conducted a Phosphorous Budget Assessment at 136 Bayfield Street and 14 Sophia Street West, Barrie, Ontario (the Site) with respect to pre- and post-development Site conditions. The investigation was completed for Rockap Holdings Ltd.

Under the Lake Simcoe Protection Plan, a stormwater management plan must demonstrate how phosphorous loadings are minimized between pre-development and post-development Site conditions. PGL used the Ontario Ministry of the Environment, Conservation and Parks' database application Lake Simcoe Phosphorous Loading Development Tool Version 2 updated 30-March-2012 (MECP, 2012) to complete the phosphorous budget for the proposed development.

PGL assessed the pre-development, post-development, and construction phase phosphorus loading with best-management practices (BMPs) for the Site using the Phosphorus Loading Tool. The phosphorus loads were found to be 1.61kg/year, 1.17kg/year, and 0.22kg/year, respectively. This amounts to a 14% reduction in Phosphorus loading (Pre-Development – (Post-Development + Construction) = 0.22kg/year.

As outlined in the Lake Simcoe Phosphorus Offsetting Policy, any remaining phosphorus load that cannot be controlled would need to be offset to achieve the zero-export target. The proposed development does not include best-management practices or low impact design measures for phosphorus reduction. Therefore, the applicable Phosphorous Offsetting fees to Lake Simcoe Region Conservation Authority, based on the offset value of \$35,770/kg with an offset ratio of 2.5:1 and Phosphorous loading of 1.39kg/year, is \$124,300.75.

Phosphorus loading for the final development, and any associated offset payments, may change if the design changes and includes best-management practices for further phosphorous reduction.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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List of Acronyms

BMP	-	best management practice
LID	-	low impact development
LSPOP	-	Lake Simcoe Phosphorous Offsetting Policy
LSRCA	-	Lake Simcoe Region Conservation Authority
PGL	-	PGL Environmental Consultants
TMIG	-	The Municipal Infrastructure Group Ltd.

1.0 INTRODUCTION

Rockap Holdings Inc. retained PGL Environmental Consultants (PGL) to conduct a phosphorous budget assessment for the proposed residential development at 136 Bayfield Street and 14 Sophia Street West, Barrie, Ontario (the Site). The investigation was conducted to estimate the phosphorous loads that would result from development of the Site.

As per the Lake Simcoe Phosphorous Offsetting Policy (LSPOP), all new development within the Lake Simcoe Region Conservation Authority (LSRCA) must control 100% of the phosphorous leaving from the development property (i.e., 0kg/year). This is also called the “Zero Export Target” by LSPOP that ensures redevelopment or new development activities within the LSRCA do not contribute phosphorous loading to Lake Simcoe. Stormwater phosphorus load that cannot be controlled requires an offset to achieve a net zero target. LSPOP implements an offset ratio of 2.5kg of phosphorus per year to be removed for every 1kg required to be offset with an offset value of \$35,770/kg/year.

1.1 Site Description

The Site is an 8,853m² property at the northwest corner of the intersection of Bayfield Street and Sophia Street West in Barrie, Ontario. The Site is improved with a five-storey commercial building on the northeast part, a two-storey commercial building on the southwest side, and large parking areas. The surrounding area is primarily commercial, with some multi-storey residential developments.

1.2 Proposed Development

The proposed development consists of a 12-storey condominium tower with two 9-storey and one 3-storey podium, and two 3-storey townhouses. There are no underground levels. Parking for the development is provided on Levels 1 to 3. Existing buildings will be removed as part of the development.

2.0 SCOPE OF WORK

To meet the objectives noted above, PGL:

1. Reviewed and evaluated the existing Site information, including:
 - a. The existing land use on the Site;
 - b. Proposed Drainage Area Plan by The Municipal Infrastructure Group Ltd. (TMIG), (Appendix 1); and
 - c. Controlled and uncontrolled runoff areas of the proposed development (email from Caitlin Beaudoin of TMIG, June 7, 2021; Appendix 2).
2. Conducted a phosphorous budget assessment with respect to current and proposed post-development Site conditions using the database application “Lake Simcoe Phosphorous Loading Development Tool (MECP, 2012).

3.0 PHOSPHORUS BUDGET

The purpose of the phosphorus budget is to evaluate the anticipated changes in phosphorus loadings between pre-development and post-development of a major development in the Lake Simcoe Region.

The Phosphorus Budget was completed using the Lake Simcoe Phosphorus Loading Development Tool (MECP, 2012). The results of the tool are shown in Appendix 3.

3.1 Pre-Development Phosphorus Load

The Site has a total area of 0.8853ha (8,853m²). For the purposes of using the Phosphorus Loading Tool, the Site is entirely high-intensity commercial development. PGL is not aware of any best-management practices (BMPs) or low-impact development measures at the existing Site.

Using the above area and assumptions, the Phosphorus Loading Tool (MECP, 2012) calculated the total pre-development phosphorus load to be **1.61kg/year** (see Appendix 3).

3.2 Post-Development Phosphorus Load and Best Management Practices

According to information received from TMIG Ltd., architects, the post-development Site will consist of 8,028m² of impervious surfaces and 825m² of pervious surfaces. Per LSRCA comments dated September 6, 2022, the full area of the Site is to be considered high-intensity residential development. .

A stormwater management vault (tank dimensions 15.2m x 5.3m x3.65m) is proposed to be installed at the southwest corner of the Site on the first level of the building. The design identifies an active storage volume of 231m³ and dead storage volume of 25m³ with a controlled outlet rate of 49.38L/s from the tank to the storm service¹. The tank is to receive roof (rain) water only. Therefore, it will not be permitted to have any phosphorous reduction efficiency and is not included in the calculations.

PGL understands best management practices (BMPs) and/or low impact development (LID) measures are not proposed for the development due to insufficient space to incorporate into the design. Therefore, BMPs/LIDs have not been included in this analysis.

Using the above areas and assumptions, the Phosphorus Loading Tool (MECP, 2012) calculated the total post-development phosphorus load to be **1.17kg/year** (see Appendix 3).

3.3 Construction Phase Phosphorus Load

The Phosphorus Loading Tool (MECP, 2012) also considers the phosphorus load contributed by the construction phase of a new development. From the Erosion and Sediment Control Plan² (Appendix 4) the following erosion control measures will be implemented during construction.

¹ Functional Servicing and Stormwater Management Report (version 4), October 2022, TGIM

² Erosion and Sediment Control Plan (E1), September 2022, TMIG

These are:

- Installing construction hoarding with silt fencing along the perimeter of the property line to ensure that sediment does not migrate offsite;
- Stockpiles left inactive more than 30days will be stabilized with hydroseed and perimeter silt fence will be installed;
- Installing sediment control (inlet sediment control) on all new and existing manholes and catch basins until decommissioned / removed or at the conclusion of construction works;
- Installing sediment control (inlet sediment control) on existing manholes and catch basins in the adjacent roadways; and
- Installing a mud mat at the construction entrance of the Site, from Maple Avenue, to reduce mud tracking and sediment leaving the Site via construction traffic.

We used the following input parameters related to the Site:

- Soil type can be classified as a sandy loam, based on available borehole logs from PGL and V.A. Wood Associates Ltd which show silty across the Site;
- The Site slopes about 3% down to the south towards Sophia Street West over 120m;
- The Site can be considered as two areas:
 - o **Unrestricted** – parts of the Site, and the west, south and east boundaries, where water could flow overland off the Site. This area is equal to 1,931m² and will be managed using silt fences; and
 - o **Restricted** – parts of the Site where water flows to catch basins. This area is equal to 6,922m² and will be managed using inlet protection measured (i.e., silt sacks);
- The total construction period will be 24 months, and soil will be exposed for eight of these months.

Inputting these values in the Phosphorus Loading Tool results in a Construction Phosphorus load of 1.79kg with BMPs and a load of 5.82kg without BMPs. The construction phase temporary phosphorus load is amortized over eight years before being included in the Development Summary calculations. The Phosphorus Loading Tool (MECP, 2012) concluded that the construction phase contributed a total of **0.22kg/year** to the total post-development phosphorus load. The total post-development phosphorus load leaving site is **1.39kg/year**.

Table 1 - Phosphorus Loads

	Total Phosphorous (kg/year)
Pre-Development	1.61
Post Development	1.17
Construction - Post Development (no BMPs)	5.82
Construction - Post Development (with BMPs)	1.79
Ammortized Construction (with BMPs)	0.22
Total Phosphorous	1.39

Calculations are in Appendix 3.

4.0 CONCLUSIONS

PGL evaluated the Phosphorous Budget for the proposed development. Although there is a reduction in Phosphorous loading, any remaining phosphorus load that cannot be controlled would need to be offset to achieve the net zero target (0kg/year of Phosphorous leaving Site). The required fee for the proposed development is:

$$\text{LSPOP Fee} = \$35,770 \times 2.5 \text{ ratio} \times \text{Phosphorous Load}$$

For this Site, the post-development Phosphorus load is **1.39kg/year**, resulting in a calculated offset value of **\$124,300.75**. A one-time fee, to be paid to the LSRCA to support offsite phosphorus reduction activities.

5.0 STATEMENT OF LIMITATIONS AND CONDITIONS FOR REPORT

5.1 Complete Report

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to PGL by the Client, communications between PGL and the Client, and any other reports, proposals or documents prepared by PGL for the Client relative to the specific site described herein, all of which together constitute the Report.

In order to properly understand the suggestions, recommendations and opinions expressed herein, reference must be made to the whole of the Report. **PGL is not responsible for use by any part of portions of the Report without reference to the whole report.**

5.2 Basis of Report

The Report has been prepared for the specific site and purposes that are set out in the contract between PGL and the Client. The findings, recommendations, suggestions, or opinions expressed in the Report are only applicable to the site and purposes in relation to which the Report is expressly provided, and then only to the extent that there has been no material alteration to or variation from the information provided or available to PGL.

5.3 Use of the Report

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. No other party may use or rely upon the Report or any portion thereof without PGL's written consent, and such use shall be on terms and conditions as PGL may expressly approve. Ownership in and copyright for the contents of the Report belong to PGL. Any use which a third party makes of the Report, is the sole responsibility of such third party. **PGL accepts no responsibility whatsoever for damages suffered by any third party resulting from use of the Report.**

We trust this meets your needs. If you have any questions or require clarification, please contact Salima Jaffer at 905-430-5502.

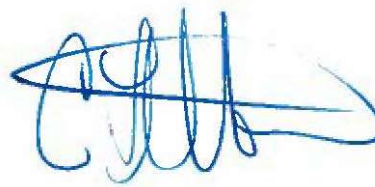
Respectfully submitted,

PGL ENVIRONMENTAL CONSULTANTS

Per:



Salima Jaffer, B.Sc.
Environmental Consultant



Christina Trotter, M.Sc., P.Geo.
Senior Hydrogeologist

SAJ/CET/ncb
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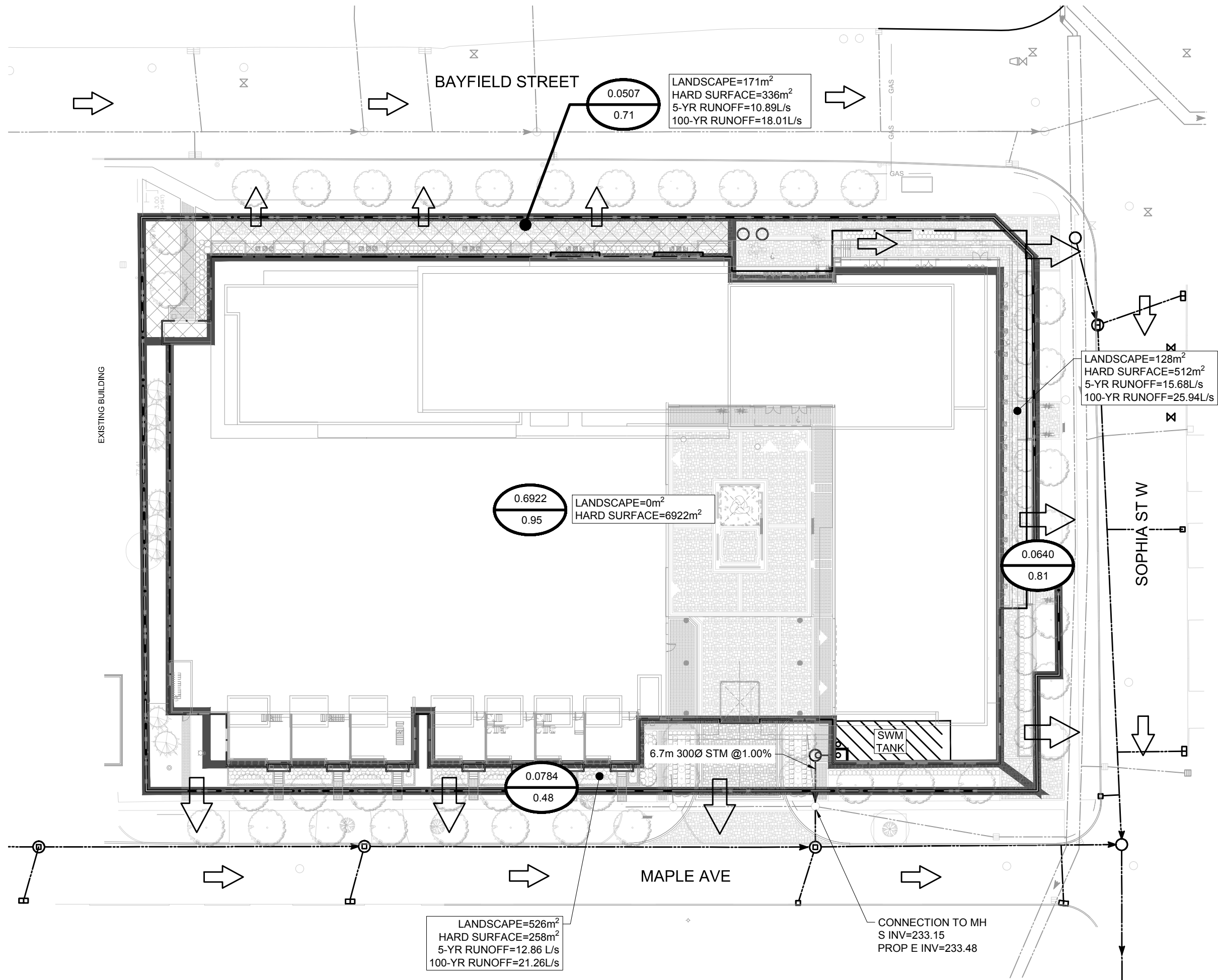
References

LSRCA. (2021) *Phosphorus Offsetting Policy*. Lake Simcoe Region Conservation Authority, July 2021.

Hutchison. (2012). *Phosphorus Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed, prepared for the Ontario Ministry of Environment*, Hutchison Environmental Sciences Ltd., version 2, March 2012.

Appendix 1
Proposed Drainage Area Plan

File: G:\Projects\19501 - One Space - Bayfield Branch\Drawings\3. Design\Drawings\19501-01-01.dwg Layout: F2-2 Date: Sep 21, 2022 - 10:11 am Edited by: karpman



LEGEND

- x 200.00 0.5% MH 1A PROP ITEMS
- x 200.00 0.5% EX MH 1A EX ITEMS
- LIMIT OF PROPERTY LINE
- DRAINAGE AREA
- ➔ PROP OVERLAND FLOW ROUTE
- 1.0000 / 0.90 AREA (HECTARES) RUN-OFF COEFFICIENT

NOT FOR CONSTRUCTION



ROCKAP HOLDINGS

136 BAYFIELD

PROPOSED DRAINAGE AREA PLAN

PROJECT #

19501

DRAWING #

F2-2

SCALE: 1:500

DATE: APRIL 2022

DRAWN BY: C.B.

DESIGNED BY: C.B.

CHECKED BY: B.D.

Appendix 2
Drainage Areas – E-mail

Salima Jaffer

From: Caitlin Beaudoin <CBeaudoin@tmig.ca>
Sent: June 7, 2021 9:38 AM
To: Salima Jaffer; Rachel Lahn
Cc: Paula Schuster
Subject: RE: revised dwgs for water balance - RE: 20001 - Bayfield Development - (5689-02.02)
Attachments: 210607-19501-F2-2.pdf

WARNING: Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

Hope you had a great weekend.

Sorry this is a bit late, but we didn't get the landscape until Fri afternoon.

I've attached our revised post-development drainage area figure. Additionally, here is the breakdown for the pervious/impervious:

UNRESTRICTED TO MAPLE AVE

- TOTAL=784m²
- LAND=526 m²
- HARD SURFACE=258 m²
- C=0.48

UNRESTRICTED TO SOPHIA

- TOTAL=640 m²
- LANDSCAPE=128 m²
- HARD SURFACE=512 m²
- C=0.81

UNRESTRICTED TO BAYFIELD

- TOTAL=507 m²
- LANDSCAPE=171 m²
- HARDSCAPE=336 m²
- C=0.71

TO SWM TANK

- TOTAL=6922 m²
- ALL HARDSCAPE
- C=0.90

Thanks,

Caitlin Beaudoin, P.Eng.

TMIG | TYLI
+1.647.914.3008

From: Salima Jaffer <SJaffer@pggroup.com>
Sent: May 31, 2021 4:01 PM
To: Caitlin Beaudoin <CBeaudoin@tmig.ca>; Rachel Lahn <rlahn@onespaceunlimited.com>

Appendix 3

MECP, 2012 Phosphorus Budget Tool: Project Development Summary

Project DEVELOPMENT Summary

DEVELOPMENT: Bayfield St, Barrie

Subwatershed: Barrie Creeks

Total Pre-Development Area (ha):	0.8853	Total Pre-Development Phosphorus Load (kg/yr):	1.61
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Pre-Development Land Use	Area (ha)	P coeff. (kg/ha)	P Load (kg/yr)
High Intensity - Comm/Industrial	0.8853	1.82	1.61

POST-DEVELOPMENT LOAD

Post-Development Land Use	Area (ha)	P coeff. (kg/ha)	Best Management Practice applied with P Removal Efficiency	P Load (kg/yr)
High Intensity - Residential	0.8853	1.32	NONE	1.17

Post-Development Area Altered:	0.89	P Load (kg/yr)
Total Pre-Development Area:	0.89	
Unaffected Area:	0	
		Pre-Development: 1.61
		Post-Development: 1.17
		Change (Pre - Post): 0.44
		27% Net Reduction in Load
		Post-Development (with BMPs): 1.17
		Change (Pre - Post): 0.44
		27% Net Reduction in Load

DEVELOPMENT: Bayfield St, Barrie

Subwatershed: Barrie Creeks

CONSTRUCTION PHASE LOAD

Site-Specific Input:

Constant / Lookup:

Calculation:

Sub Area: Restricted

Duration of Construction (months):	24	R (rainfall / runoff for Lake Simcoe)	90
Duration of Exposed Soil (months):	8	K (soil erodability factor):	0.13
Surface Slope Gradient (%):	3.3	NN (determined by slope):	0.4
Length of Slope (m):	120	BMP prevention Efficiency:	0%
Slope Area (ha):	0.6922	BMP capture Efficiency:	69%
% slope erosion prevention applied to:	1	LS (slope length gradient factor):	0.94
% slope runoff capture applied to:	1	C (portion of year of exposed soil):	0.33
Subwatershed Soil [P] (kg/kg):	0.0004	P (prevention + capture):	0.31
		Soil Loss (kg/year):	1764.629
		Phosphorus Load (kg):	1.41

Sub Area: Unrestricted

Duration of Construction (months):	24	R (rainfall / runoff for Lake Simcoe)	90
Duration of Exposed Soil (months):	8	K (soil erodability factor):	0.13
Surface Slope Gradient (%):	3.3	NN (determined by slope):	0.4
Length of Slope (m):	120	BMP prevention Efficiency:	0%
Slope Area (ha):	0.1931	BMP capture Efficiency:	70%
% slope erosion prevention applied to:	1	LS (slope length gradient factor):	0.94
% slope runoff capture applied to:	1	C (portion of year of exposed soil):	0.33
Subwatershed Soil [P] (kg/kg):	0.0004	P (prevention + capture):	0.30
		Soil Loss (kg/year):	476.3911
		Phosphorus Load (kg):	0.38

Developed AREA (ha): 0.88530001044

Total

Construction Phase Phosphorus Load with BMPs (kg):	1.79
Construction Phase Phosphorus Load no BMPs (kg):	5.82

DEVELOPMENT: Bayfield St, Barrie
Subwatershed: Barrie Creeks

SUMMARY WITH IMPLEMENTATION OF BMPs		P Load (kg/yr)
Pre-Development:		1.61
Construction Phase Amortized Over 8 Years :		0.22
Post-Development:		1.17
Post-Development + Amortized Construction:		1.39
Pre-Development Load - Post-Development Load:		0.44
Conclusion:	27% Reduction in Load	
Pre-Development Load - (Post-Development + Amortized Construction Load):		0.22
Conclusion:	14% Reduction in Load	
Based on a comparison of Pre-Development and Post-Development loads, and in consideration of Construction Phase loads, the Ministry would encourage the Municipality to:		
Approve development as site specific appropriate.		

Appendix 4
Erosion and Sediment Control Plan

EROSION & SEDIMENT CONTROL NOTES:

1. ALL NEW AND EXISTING CATCHBASINS AND CATCHBASIN MANHOLES ON-SITE OR IN ADJACENT STREETS SHALL HAVE THE UNDERSIDE OF THE GRATE COVERED WITH TERRAFIX 240R NON-WOVEN GEOTEXTILE DURING CONSTRUCTION. CONTRACTOR SHALL REGULARLY CLEAN SEDIMENT AND DEBRIS FROM THESE GEOTEXTILE PIECES. CONTRACTOR SHALL DISPOSE WITH THESE PIECES AT THE END OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN ADJACENT STREETS AND PROPERTIES FREE OF DUST, MUD, AND OTHER REFUSE THROUGHOUT DURATION OF CONSTRUCTION. ANY CLEANING OF ADJACENT AREAS DURING CONSTRUCTION SHALL BE PAID BY THE CONTRACTOR.
3. HOARDING OR SNOW FENCING SHALL BE ERECTED AND MAINTAINED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL REMAIN IN PLACE AND IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION AND GRADING PHASE.
4. FILTER FABRIC SHALL BE PLACED UNDER ALL STREET CATCHBASINS GRATES. SILT TRAPS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL CURBS ARE CONSTRUCTED AND BOULEVARDS AND BACKYARDS ARE GRADED AND SODDED. FILTER FABRIC USED FOR SEDIMENT CONTROL SHALL BE TERRA-FIX 240R AN APPROVED EQUIVALENT. MUD TRACKING AND DUST MUST BE CONTROLLED ON ALL ROADWAYS TO THE SATISFACTION OF THE CITY.
6. ALL SEDIMENT CONTROL MEASURES SUCH AS SEDIMENT CONTROL FENCE, TEMPORARY PONDS, CONSTRUCTION ACCESS MATS, SEDIMENT TRAPS, SWALES AND CHECK DAMS MUST BE INSTALLED PRIOR TO THE COMMENCEMENT OF SITE WORKS.
7. SEDIMENT CONTROL SHOULD BE INSPECTED ON A REGULAR BASIS AND AFTER EVERY SIGNIFICANT RAINFALL EVENT. REPAIRS TO ESC MEASURES MUST BE COMPLETED IN A TIMELY MANNER TO PREVENT SEDIMENT MIGRATION.
8. ADDITIONAL MATERIALS SUCH AS CLEAR STONE, FILTER FABRIC, PUMPS, HOSES AND SILT-SOXX TO BE KEPT ON-SITE AT ALL TIMES FOR CONDUCTING REPAIRS TO SEDIMENT CONTROL MEASURES.
9. ALL DISTURBED AREAS LEFT INACTIVE FOR MORE THAN THIRTY DAYS ARE TO BE STABILIZED.
10. THE STABILIZATION SEED MIXTURE IS TO BE AS SPECIFIED ON THE EROSION AND SEDIMENT CONTROL PLAN.
11. THE STABILIZATION SEED MIXTURE IS TO BE APPLIED AT A MINIMUM RATE OF 25 KG/HA.
12. ENGINEERED CHANGES TO THE ESC MEASURES MAY BE NEEDED AS SITE CONDITIONS CHANGE THROUGHOUT THE CONSTRUCTION PROCESS. THESE UPDATES MUST REFLECT BEST MANAGEMENT PRACTICES TO CONTROL SEDIMENT AND EROSION ON-SITE AND SHOULD BE COMPLETED BASED ON DIRECTION FROM THE SITE ENGINEER. ADDITIONAL MEASURES MAY BE REQUIRED AS DIRECTED BY AN ENGINEER THROUGHOUT THE CONSTRUCTION PROCESS.
13. THE CONSTRUCTION ENTRANCE MAT IS TO BE INSTALLED AS THE FIRST STEP IN THE SITE ALTERATION PROCESS.
14. SEDIMENT CONTROL FENCE IS TO BE INSTALLED DOWNSLOPE OF ALL DISTURBED AREAS. A DOUBLE ROW OF SEDIMENT CONTROL FENCE IS TO BE INSTALLED SURROUNDING ALL NATURAL HERITAGE FEATURES AND AS DIRECTED BY THE SITE ENGINEER. SEDIMENT CONTROL FENCE IS TO BE AS PER LSRCA STANDARD ESC-4 OR ESC-5 AS A MINIMUM. LIGHT DUTY SEDIMENT CONTROL FENCE IS NOT ACCEPTABLE.
15. CUT-OFF SWALES OR DITCHES ARE TO BE INSTALLED AS SHOWN ON THE ESC PLANS AND AS NECESSARY BASED ON CHANGING SITE CONDITIONS TO DIRECT OVERLAND FLOW TO THE APPROPRIATE SEDIMENT TRAP OR TEMPORARY SEDIMENT POND.
16. CHECK DAMS ARE TO BE INSTALLED IN ALL SWALES AND DITCHES IN ACCORDANCE WITH DRAWING LSRCA ESC-2, AS A MINIMUM.
17. TEMPORARY SEDIMENT TRAPS ARE TO BE CONSTRUCTED AT THE BEGINNING OF SITE GRADING AND IF THE SITE DRAINAGE CHANGES DURING CONSTRUCTION, IT MAY BE NECESSARY FOR TEMPORARY SWALES TO BE CONSTRUCTED TO DIRECT SITE FLOWS TO THE TEMPORARY SEDIMENT TRAPS DURING ROUGH GRADING AND AS CONSTRUCTION PROGRESSES.
18. TEMPORARY SEDIMENT POND(S) ARE TO BE CONSTRUCTED AT THE BEGINNING OF SITE TRADING AND IF THE SITE DRAINAGE CHANGES DURING CONSTRUCTION, IT MAY BE NECESSARY FOR TEMPORARY SWALES TO BE CONSTRUCTED TO DIRECT SITE FLOWS TO THE TEMPORARY SEDIMENT POND(S) DURING ROUGH TRADING AND AS CONSTRUCTION PROGRESSES.
19. FILTERDRAIN SILT-SOXX OR APPROVED EQUIVALENT TO BE INSTALLED DOWNSTREAM FROM SEDIMENT TRAP AND TEMPORARY SEDIMENT POND OUTLETS TO A MINIMUM HEIGHT OF 300MM.
20. IF STOCKPILES ARE USED ON-SITE FOR THE STORAGE OF EXCESS MATERIAL, THEY ARE TO BE IN ACCORDANCE WITH DETAIL DRAWING LSRCA ESC-6 OR BETTER.
21. ANY DEWATERING OCCURRING ON-SITE MUST BE IN ACCORDANCE WITH AN APPROVED DEWATERING PLAN. ADDITIONAL DEWATERING REQUIREMENTS MAY BE DEEMED NECESSARY AND SHALL BE IMPLEMENTED AS DIRECTED BY THE ENGINEER, CONTRACT ADMINISTRATOR OR LOCAL MUNICIPALITY.
22. THE SITE TRAILER IS TO BE LOCATED ONLY AT THE DESIGNATED LOCATION SHOWN ON THE PLANS.
23. EQUIPMENT AND HYDROCARBON STORAGE IS TO OCCUR ONLY WITHIN THE DESIGNATED AREA SHOWN ON THE PLANS.
24. REFUELLING IS TO TAKE PLACE ONLY WITHIN THE DESIGNATED AREA SHOWN ON THE PLANS AND SHALL BE A MINIMUM OF THIRTY METRES FROM ANY WATERCOURSE OR ENVIRONMENTALLY SENSITIVE AREA.
25. AN APPROVED SPILLS MANAGEMENT PLAN IS TO BE KEPT ON-SITE.
26. SPILL CLEANUP EQUIPMENT SUCH AS ABSORPTIVE MEDIA IS TO BE MAINTAINED ON-SITE FOR IMMEDIATE USE IN THE EVENT OF A SPILL.
27. SPILLS ARE TO BE REPORTED IMMEDIATELY TO THE MOECC SPILLS ACTION CENTRE AT 1-800-268-6060.
28. THE CONTRACTOR WILL BE RESPONSIBLE FOR CLEAN-UP AND RESTORATION, INCLUDING ALL COSTS, DUE TO THE RELEASE OF SEDIMENT FROM THE SITE.
29. LOW IMPACT DEVELOPMENT (LID) MEASURES ARE NOT TO BE USED AS SEDIMENT CONTROL DEVICES.
30. ADDITIONAL SEDIMENT CONTROL DEVICES MAY BE DEEMED NECESSARY AND AS SITE CONDITIONS CHANGE AND SHALL BE INSTALLED AS DIRECTED BY THE SITE ENGINEER, CONTRACT ADMINISTRATOR OR LOCAL MUNICIPALITY.

SEDIMENT CONTROL INSTRUCTIONS:

1. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SEDIMENT FENCE, CLEAR STONE AND FILTER FABRIC ON-SITE FOR EMERGENCY USE. SEDIMENT FENCE WILL BE INSTALLED BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION WORKS.
2. SITE INSPECTOR SHALL VERIFY THAT THE SEDIMENTATION CONTROLS ARE INTACT ON WEEKLY BASIS AND AFTER ALL RAINFALL EVENTS. DEFICIENCIES SHALL BE REPORTED TO THE CONTRACTOR AND REPAIRED IMMEDIATELY.
3. MONTHLY INSPECTION REPORTS SHALL BE PREPARED BY THE INSPECTOR.
4. UPON IMPLEMENTATION OF EROSION AND SEDIMENT CONTROL, THE CONTRACTOR IS TO CONFIRM WITH THE INSPECTOR THAT THE CONTROLS ARE OPERATING TO THEIR SATISFACTION. ADDITIONAL MEASURES MAY BE REQUIRED AT THE RECOMMENDATIONS OF THE ENGINEER AND/OR INSPECTOR.
5. POSITIVE DRAINAGE TO THE SEDIMENT BASINS SHALL BE MAINTAINED DURING CONSTRUCTION.

GRATE TO BE DOUBLE WRAPPED TERRAFIX 240R NON-WOVEN GEOTEXTILE

NOTES:

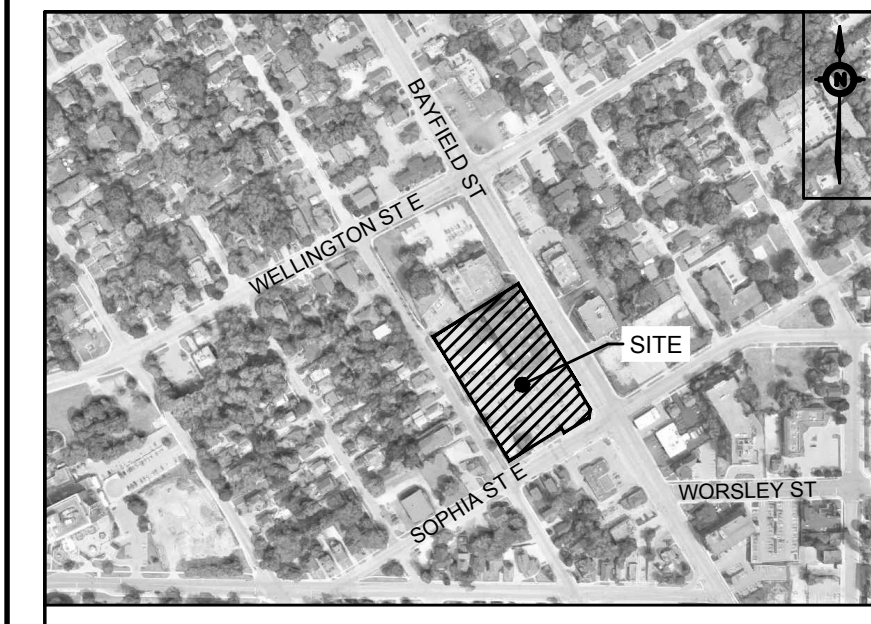
- WOVEN GEOTEXTILE TO HAVE A MINIMUM EQUIVALENT OPENING SIZE OF 0.15mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm.
- WOVEN GEOTEXTILE TO BE MAINTAINED AND REINSTATE PERIODICALLY WHEN ACCUMULATED SEDIMENTS INTERFERE WITH DRAINAGE.
- CLEAR STONE TO BE PLACED ON TOP OF WRAPPED CATCHBASIN TO PROTECT GEOTEXTILE FROM LARGE OBJECTS.

INLET SEDIMENT CONTROL

N.T.S.

BAYFIELD STREET

MAPLE AVE



KEY PLAN
N.T.S.
LEGEND

- ADDRESS:
136 BAYFIELD
CITY OF BARRIE, SIMCOE COUNTY
- SEE ABBREVIATIONS BELOW
- 200.00 0.5% PROPOSED ITEMS
 - 200.00 0.5% EXISTING ITEMS
 - LIMIT OF PROPERTY LINE
 - SANITARY SEWER
 - STORM SEWER
 - WATERMAIN
 - SAN MH / PIPE STUB / PIPE OUTLET
 - STM MH / CBMH / DCBMH / OGS
 - CB / DCB / AD / TD
 - HYDRANT / SIAMSE / METER CHAMBER
 - VALVE BOX / VALVE CHAMBER
 - WAT TEE / CROSS / REDUCER
 - CONSTRUCTION HOARDING
 - CONSTRUCTION ENTRANCE/ MUDMAT
 - INLET SEDIMENT CONTROL DEVICE

BENCHMARK: ELEVATIONS ARE GEODETIC, IN METRES, AND DERIVED FROM: CITY OF BARRIE DATUM

BEARING: BEARINGS ARE UTM GRID AND ARE REFERRED TO: THE CENTRAL MERIDIAN ZONE 17(81°W) AND ARE DERIVED FROM GPS OBSERVATION IN WGS84 AND CALIBRATED TO NAD 83.

SITE PLAN: CDN LAND SURVEYORS INC., MAY 20, 2008

NO.	ISSUE	DATE	BY
4	DRAFT - FOR COORDINATION	220809	C.B.
3	ISSUED FOR SPA RE-SUBMISSION	220408	C.B.
4	REISSUED FOR SPA	220321	C.B.
2	REISSUED FOR REZONING/SPA	200615	B.D.
1	ISSUED FOR REZONING/SPA	200430	B.D.

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3. THIS DRAWING IS NOT TO BE ISSUED FOR CONSTRUCTION UNTIL ALL REQUIRED PERMITS HAVE BEEN ISSUED.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, INVERTS AND DATA ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO TMIG 48 HOURS PRIOR TO ANY CONSTRUCTION.

ABBREVIATIONS											
GENERAL:		BC	=	BOTTOM OF CURB							CHLORIDE
PROP = PROPOSED		C&G	=	CURB & GUTTER							HYD = HYDRO LINE
EX = EXISTING		TW	=	TOP OF WALL							GAS = GAS LINE
OPNR = QUEEN'S PARK NEIGHBORHOOD RENEWAL		BW	=	BOTTOM OF WALL							OHW = OVERHEAD W
ELEVATIONS:				SERVICING:							CONC = CONCRETE
TC = TOP OF CURB		STM	=	STORM							MH = MAINTENANCE
		SAN	=	SANITARY							HOLE
		WAT	=	WATER							CB = CATCH BASIN
		PVC	=	POLYVINYL							AD = AREA DRAIN
											TD = TRENCH DRAIN



EROSION AND SEDIMENT CONTROL PLAN

136 BAYFIELD

ROCKPAC HOLDINGS

SCALE: 1:250	PROJECT # 19501
DATE: JANUARY 2020	DRAWING #
DRAWN BY: C.B.	E1
DESIGNED BY: C.B.	
CHECKED BY: B.D.	