

Required Report / Study	Functional Submission	Detailed Design	Required Report / Study	Functional Submission	Detailed Design
Proposed Amendment Documents (OPA/ZBA)	X		Top of Bank Demarcation Mapping		
Planning Justification Report prepared by a qualified professional (inclusive of Provincial Plan Conformity including LSPP)	X		Floodplain Analysis		
Environmental Impact Study / Natural Heritage Evaluation	X		Geotechnical / Soils Report	X	
Ecological Offsetting Strategy	X		Master Drainage Plan		
Rare, Threatened and Endangered Species Analysis			Slope Stability / Erosion Assessment		
Tree Inventory & Preservation Plan / Arborist Report			Topographic Survey prepared by an OLS	X	
Watercourse / Shoreline Protection, Enhancement and Restoration Plans			Hydrogeological Analysis including a Water Balance	X	
Coastal Engineering Study			Phosphorus Budget	X	
Vegetation Protection, Enhancement and Restoration Plans			Functional Servicing Report	X	
Edge Management Plan			Stormwater Management Report	X	
Landscape Plan			Erosion and Sediment Control Plan		
Site Plan / Draft Plan/R Plan	X		Grading and Drainage Plan		
			LSRCA Review Fee	X	

Comments:

Current environmental mapping shows the area where the proposed works are located is significant woodland. This area is subject LSRCA's Ecological Offsetting Policy and compensation will be required for removal of features. The development setbacks will be determined by a natural heritage evaluation.

The proposal constitutes major development as defined by the Lake Simcoe Protection Plan (LSPP) and the Lake Simcoe Phosphorus Offsetting Policy (LSPOP). Subject to DP-4.8 of the LSPP, LSRCA is requesting a phosphorus budget as well as stormwater management report and water balance at the zoning stage in order to help facilitate review of the subsequent detailed design stage.

The Applicant is required to provide completed and signed technical checklists (attached) as part of their submissions to the LSRCA.

PLEASE NOTE:

Properly developed technical studies, prepared in accordance with applicable technical guidelines, will support timely review by the LSRCA. It is expected that technical submissions by the Applicant will meet good practice and industry

standards to minimize resubmissions and avoid unnecessary delay. These comments should only be considered valid for a period of 12 months from the date of this document.

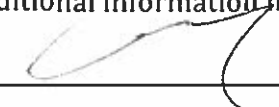
LSRCA Hydrogeological Submission Acknowledgement

I, Name: Cameron MacDougall, Credentials: P.Geo. (i.e. P.Geo, or exempted P.Eng. as determined within the *Professional Geoscientists Act of Ontario*), confirm that I am a professional familiar with applicable documents, guidelines and criteria pertaining to groundwater management and that the submission entitled:

Report Name: Hydrogeological Assessment Report - 505 Yonge Street, Barrie, Ontario, with associated Drawings: 1 through 3 has been reviewed by me and addresses the key components in the check list included below.

I acknowledge that hydrogeological sign-off or sign-off from another discipline pertaining to this submission or a portion of this submission does not constitute a permit from LSRCA. A permit will be required for all works within an LSRCA Regulated Area in accordance with Ontario Regulation 179/06 and additional information may be required as part of the permit process.

I acknowledge that an incomplete submission will result in processing delays and may be returned and/or additional information may be requested.

Signature:  Printed Name: Cameron MacDougall

Name of Consulting Firm: Cambium Inc.

Date: 12/14/21 (mm/dd/yy)

LSRCA Hydrogeological Submission Checklist

The following checklist refers to the requirements when submitting a detailed design submission. These same requirements apply to functional design submissions as well, with the exception of the detailed design drawings. The functional design needs to provide sufficient detail to demonstrate the proposed development concept will be capable of meeting the hydrogeological requirements at the detailed design stage.

For items that have been included, please fill in the report section and report page along with appendix location or drawings pertaining to each item. For items not included, check "No" or "N/A" (Not Applicable) for each item. If "No" or "N/A" are checked, please provide an explanation in the note section of why the criteria do not apply in a particular instance. Please note that the submission may be deemed incomplete and that additional consultation with LSRCA may be required prior to submission acceptance.

The checklist below refers to requirements for every development type, therefore the **LSRCA Hydrogeological Submission Guidelines (2013)** should be referred to for specific study requirements for your type of Planning Act application. For example, the study scope may be

reduced for single lot residential applications. Please contact LSRCA to scope study requirements prior to undertaking work.

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
					Pre-submission consultation with LSRCA has been completed as recommended in the Hydrogeological Assessment Submission Guidelines (2013).	Yes, completed by Client.
					The hydrogeological report has been prepared as a standalone document . (i.e., all references, calculations and drawings, Thornthwaite-Mather water balance assessment, are included within the document).	Yes
					A Hard Copy of all reports and all drawings (folded individually to 8.5" x 11" size) has been submitted for LSRCA review.	Client will presumably provide a hardcopy of the report to the LSRCA.
3.0	8				Geological Characterization as per Section 3.1	Yes
2.0 and 3.0	6 - 12	Fig 1			Test pits/Boreholes as per Section 3.1.6 (Required for detailed design)	Yes
2.0 and 3.0	6 - 12	Fig 1			Monitoring Wells as per Section 3.1.7 (Preliminary data required for functional design)	Yes
				X	Private Well Survey as per Section 3.1.8	No - area serviced by City of Barrie
3.0	12				Characterization of the local hydrostratigraphy/hydrogeology as per Section 3.1.9	Yes
3.0	8-12				Description of Surface Water Features and Functions as per Section 3.1.10	Yes
4.3	15	Appendix E			Water Quality as per Section 3.1.12	Yes
				X	D-5-5 Water Supply (private servicing only) as per Section 3.1.13	No - area serviced by City of Barrie
3.3	12	Appendix F			Groundwater Levels as per Section 3.2.1 (Preliminary data required for functional design)	Yes
				X	Pumping Tests as per Section 3.2.2	No - area serviced by City of Barrie

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
3.0	8-12				Groundwater Discharge (Baseflow) as per Section 3.2.3	Yes
6.0	21	Appendix H			Pre- and Post-Development Water Balance Assessment as per Section 3.2.4	Yes
				X	D-5-4 (Onsite Sewage Systems only) as per Section 3.2.6	No- area serviced by City of Barrie
4.0 and 6.0	14, 21	Appendix H			Infiltration/recharge mitigation plan as per Section 3.3	Yes
4.0	14				In-situ infiltration testing as per Section 3.3	Yes
6.0	24				Low impact development design calculations	Yes

Submission/Resubmission Requirements:

1. A completed response matrix which includes a detailed response outlining how each of the comments above have been addressed with reference to applicable reports/drawings (i.e. specific sections/pages/details or tab identifiers).
2. The response matrix is to also include a summary of any additional changes to the design (i.e. in addition to those not identified in the detailed response to comments, and includes changes to reports, drawings, details, facility design, etc.).
3. All drawings are to be folded (8.5 x 11).
4. Reports and engineering drawings/details are to be signed and sealed by a Professional Geoscientist or Professional Engineer as appropriate.
5. Reports are to include a digital copy of applicable models on a Data CD or USB Thumb Drive.
6. All submissions/reports are to include applicable technical components which achieve the minimum requirements outlined in the LSRCA Technical Guidelines for Stormwater Management Submissions, September 2016.

Important Notes and References:

1. Please contact the LSRCA to scope any required Environmental Impact Study or Natural Heritage Evaluation. Information regarding ecological offsetting policy can be found here <https://www.lsrca.on.ca/Shared%20Documents/Ecological-Offsetting-Plan-2019.pdf>
2. The stormwater management submission is required to be prepared in accordance with "LSRCA Technical Guidelines for SWM Submissions" https://www.lsrca.on.ca/Shared%20Documents/permits/swm_guidelines.pdf
3. Submissions are to be in accordance with the LSRCA Watershed Development Guidelines <https://www.lsrca.on.ca/Shared%20Documents/permits/watershed-development-guidelines.pdf?pdf=Watershed-Development-Guidelines>
4. The hydrogeological analysis is required to be prepared in accordance with "Hydrogeological Assessment Submissions: Conservation Authority Guidelines for Development Applications"

<https://www.lsrca.on.ca/Shared%20Documents/permits/hydrogeological%20 guidelines.pdf?pdf=Hydrogeological-Guidelines>

5. Where the LSPOP applies, submissions are to be in accordance with the LSPOP found here:
<https://www.lsrca.on.ca/watershed-health/phosphorus>
6. Low Impact Development Treatment Train Tool can be found here:
<https://www.lsrca.on.ca/Pages/LIDTTTool.aspx>
7. [LSPP Water Balance Offsetting Policy: applies to all new applications under the planning act received after 1 January 2019, details can be found here:](#)
<https://www.lsrca.on.ca/Shared%20Documents/lspw-water-budget-policy.pdf>
8. LSRCA Review Fees can be found here:
<https://www.lsrca.on.ca/permits/permit-fees>