

South Georgian Bay Lake Simcoe Source Protection Region

**Request for Proposal
March 1, 2010**

Barrie, Lovers and Hewitts Creek Subwatersheds – Tier 3 Water Budget and Water Quantity Risk Assessment

All submissions are subject to the following terms and conditions.

The Lake Simcoe Region Conservation Authority reserves the right to accept or reject any quotation. The Lake Simcoe Region Conservation Authority also reserves the right to withdraw, at its discretion, this request at any time and shall not be liable for any expense, cost, loss or damage incurred or suffered by any bidder as a result of such withdrawal.

Three hard copies and one digital copy of the quotation and supporting documentation as described below are to be delivered by 4:00 PM, Monday, March 22, 2010 to:

Mr. Don Goodyear
Lake Simcoe Region Conservation Authority
120 Bayview Parkway
Newmarket, Ontario,
L3Y4X1
905-895-1281 ext. 264; d.goodyear@lsrca.on.ca

1.0 BACKGROUND

The South Georgian Bay Lake Simcoe (SGBLS) Source Protection Region was formed under the *Clean Water Act* and includes the Lake Simcoe, Nottawasaga Valley, Severn Sound and the Black-Severn River watersheds. A number of technical studies are currently underway within the Source Protection Region that support the regulations and Technical Rules under the *Clean Water Act*. Some of these studies include evaluating the risk to municipal water supplies from a water quantity perspective. The Ministry of Environment (MOE) and the Ministry of Natural Resources (MNR) have developed a three-tiered approach for the assessment of water budgets, with each tier providing a more detailed analysis and a greater level of certainty than the previous tier.

Both the Tier 1 and Tier 2 water budgets and water quantity stress assessments have been completed for the SGBLS Source Protection Region. The Nottawasaga, Severn Sound and West Lake Simcoe Tier 2 Water Budget and Water Quantity Stress Assessment have been drafted in January, 2010, by Golder Associates Ltd. and AquaResource Inc. (the draft reports available for review). The study included completing a conceptual hydrostratigraphic model,

numeric groundwater flow model, and water quantity stress assessment for the subwatersheds within the Nottawasaga, Severn Sound and Western Lake Simcoe Watershed areas. The results of the Tier 2 stress assessment indicated several subwatersheds as having a moderate or significant potential for stress.

Barrie, Lovers and Hewitts Creek subwatersheds have been identified as having a moderate to significant potential for stress (Figure 1). As a result, the study recommended that the City of Barrie water supply systems along with the Stroud and Innisfil Heights municipal systems should proceed to a Tier 3 Water Quantity Risk Assessment. It was further recommended that the study should include the area surrounding the City that currently or potentially may contribute to the municipal system's sustainability, including the Midhurst area to the north, the area west toward the Minesing Swamp and the area to the south that includes the Stroud and Innisfil Heights municipal systems. As these systems are in close proximity they should be completed as one study.

As a result of this preliminary stress evaluation, the Lake Simcoe Region Conservation Authority is proposing to implement a detailed Tier 3 – Water Budget and Water Quantity Risk Assessment for the subwatersheds containing municipal water supplies that were determined to have a significant or moderate water quantity stress level. The overall objective of the Tier 3 risk assessment is to evaluate the risk that a community may not be able to meet its current or future water demands and to identify drinking water quantity threats that are contributing to that problem.

This Request for Proposal is to solicit interest from qualified professionals and firms to undertake the work necessary to complete the Tier 3 Water Quantity Risk Assessment for the City of Barrie and the Town of Innisfil's (Stroud & Innisfil Heights) municipal supply systems as outlined within the Technical Rules (MOE, 2009).

2.0 TASKS AND REQUIRED EXPERTISE

2.1 Expertise

The successful consultant(s) are expected to undertake the work required to complete a Tier 3 assessment utilizing the following skill sets;

- Qualified Professional and is Registered as a Professional Geoscientist or Engineer within Ontario
- Knowledge of the SGBLS Source Protection Region and the Source Protection Technical Rules (MOE, 2009) is essential
- Contains the necessary experience in working with numerical groundwater models, surface water models, and the geology within the Source Protection Region and can utilize existing models, data and other relevant information/studies where possible
- Contains the necessary project management experience to produce results and products on-time and on-budget

2.2 Tasks

The successful consultant(s) are expected to undertake the work required to complete a Tier 3 assessment of the municipal wells within the Local Area containing the Barrie, Hewitts and Lovers Creek subwatersheds as outlined within the Technical Rules (MOE, 2009). The following tasks represent the current requirements presented in the Technical Rules (MOE, 2009) and it

should be noted that changes to MOE/MNR guidance and input from the peer review team may result in additional tasks arising over the course of the contract.

1. Assess Available background Information and Data
2. Analyze Information/Data Gaps and Define Additional Data Requirements
3. Compile Historical and New Data
4. Refine Conceptual Geological / Hydrogeological Model(s)
5. Assess Water Demand Estimates
6. Estimate Surface Water/Groundwater Other Uses
7. Refine existing FEFLOW Model
8. Refine surface water Model(s)
9. Assess Water Budget Elements
10. Apply Models to Scenario Analysis (Existing Conditions, Committed Demand, Planned Demand, & Drought Conditions)
11. Risk Assessment
12. Threats Identification
13. Assess Degree of Uncertainty in Risk and Threats Analysis
14. Assess Data and Knowledge Gaps for Future Planning Phases
15. Prepare Interim, Drafts and Final Reports
16. Present various aspects of the project to SPC, LSRCA staff, MNR staff and Peer review team
17. Prepare Peer Review Record
18. Project Management
19. Manage Project Team Meetings
20. Transfer of all digital information, including populating the water budget database

3.0 DELIVERABLES

The deliverables for the project will vary by task, but will primarily include, preparation of technical memos, interim, draft and final reports along various stages of the project. Proponents should be aware that, where the task includes creation or revisions to model and/or data files, deliverables will include the transfer of raw and interpreted digital information in a specified format, which will necessitate GIS/database expertise/support within the firm. This will include populating the water budget data model developed by the province.

All data, geological surface, flow model files and revisions made to these files shall be provided to Lake Simcoe Region Conservation Authority upon project completion and shall remain the sole property of the Lake Simcoe Region Conservation Authority and cannot be used by the successful consultant(s) for any other consulting project without expressed written permission from Lake Simcoe Region Conservation Authority.

4.0 MEETINGS / PEER REVIEW

Over the course of the project a number of working sessions will be required in the LSRCA's Newmarket office and/or an alternate location within the vicinity of the study area. There may also be requests for participation in or presentations to working groups and or the Source Protection Committee.

The Project Management Team will enlist the help of a Peer Review Team to provide technical review of the scope of work, the technical results of the project and the overall conclusions of the Water Quantity Risk Assessment. Team members will include, where possible, peer review team members from the Tier 2 assessment, municipal, MNR, MOE, LSRCA and NVCA staff.

The Peer Review Team will meet with the Project Team on at least four occasions as follows: 1) during development of the project; 2) following development and calibration of the model; 3) after completion of the preliminary risk assessment; and 4) following production of the draft report. The Peer Review Team will provide written comments on the draft report and the comments will be resolved before the final report is completed.

5.0 PROPOSED SCHEDULE

The schedule for the project has been established so that the consultant's work can be completed by August 31, 2011 to allow sufficient time for LSRCA to incorporate the results of the study into the Assessment Report, as directed by the Technical Rules (MOE, 2009).

The proposal is due by 4:00PM on Monday, March 22, 2010. The contract period will be from April, 2010 to August, 2011.

6.0 SUBMISSION REQUIREMENTS AND SELECTION PROCESS

6.1 Submission Requirements

Outlined below are the minimum requirements for the submission of proposals:

- A) Three (3) hard copies and one (1) digital copy of the proposal must be submitted by 4:00 PM, Monday, March 22, 2010 to:

Mr. Don Goodyear
Lake Simcoe Region Conservation Authority
120 Bayview Parkway
Newmarket, Ontario,
L3Y4X1

- B) The proposal should be accompanied by a maximum five (5) page covering letter demonstrating an understanding of the Source Water Protection program, and listing experience related to the tasks above.
- C) Submissions must contain a list of professionals that may be assigned to the project, their curricula vitae and hourly rates.
- D) Proposals must outline a schedule of key activities, tasks and resources, including milestones and deliverables with costs associated with each task. There is an expectation that the successful consultant will update and circulate the schedule at regular intervals throughout the completion of the project.
- E) Submissions must include a statement of other current project commitments, including the available time and resource dedication to this project.
- F) Submissions must indicate any work proposed to be undertaken in consultation or association with other consulting firms. All subconsultant fees must be identified and included in the upset fee and subconsultant activity will be managed and paid for by the consultant.
- G) Submissions must identify any existing or potential conflict of interest which might occur

by the consultant(s) participation in the project.

- H) State any conditions or terms that the consultant may require that are not mentioned herein.

6.2 Errors or Omissions and Addenda

Upon receipt of the RFP document, the consultant shall review it in detail, along with all other background documents referenced in the RFP. The consultant should also familiarize himself/herself with the project study area, where possible. Should the consultant discover any discrepancy, deficiency, ambiguity, inconsistency or omission in the RFP based on these reviews, the consultant shall request clarification, in writing, prior to March 22, 2010. The request should be addressed to:

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Only written requests will be accepted. Where such a request results in a change to the requirements of this RFP, LSRCA will prepare and issue an addendum to this RFP.

It is, however, not the intent of LSRCA to distribute information on what LSRCA considers to be innovative ideas put forward by a consultant. LSRCA reserves the right to revise the RFP up to the Proposal Due Date.

6.3 Selection

The selection of the successful consultants will be based on the following criteria:

- Expertise identified in Section 2.1;
- Experience of the firm, including past experience on similar projects, the experience of the project manager, specialty staff, project team members in the tasks identified in Section 2.0;
- Proposed Scope of Work;
- Project Scheduling of Key Activities and Resources;
- Approach to Groundwater Modelling;
- Performance on Past Projects; and
- Cost.

6.4 General, Terms and Conditions

- All submissions will become the property of the Lake Simcoe Region Conservation Authority.
- The successful bidder will be expected to commence work on this project immediately following receipt of formal notification of the award.
- Lake Simcoe Region Conservation Authority reserves the right to reject any or all of the submissions and to award the work to other than the lowest bidders based upon

the criteria noted in Section 6.2.

- The successful bidders will be expected to enter into an agreement with the Lake Simcoe Region Conservation Authority for provision of these services. This contract will include minimum insurance (\$2,000,000) and health and safety requirements.
- The Lake Simcoe Region Conservation Authority will not bear any cost involved in the preparation of submissions received as a result of this request.
- The Lake Simcoe Region Conservation Authority reserves the right to modify the schedule, or cancel this RFP for any reason without incurring any liability for costs, losses or damages incurred by any company invited to participate in the proposal phase.
- The successful consultants will be required to enter into data sharing agreements with SGBLS, LSRCA and or municipalities within the project regions.

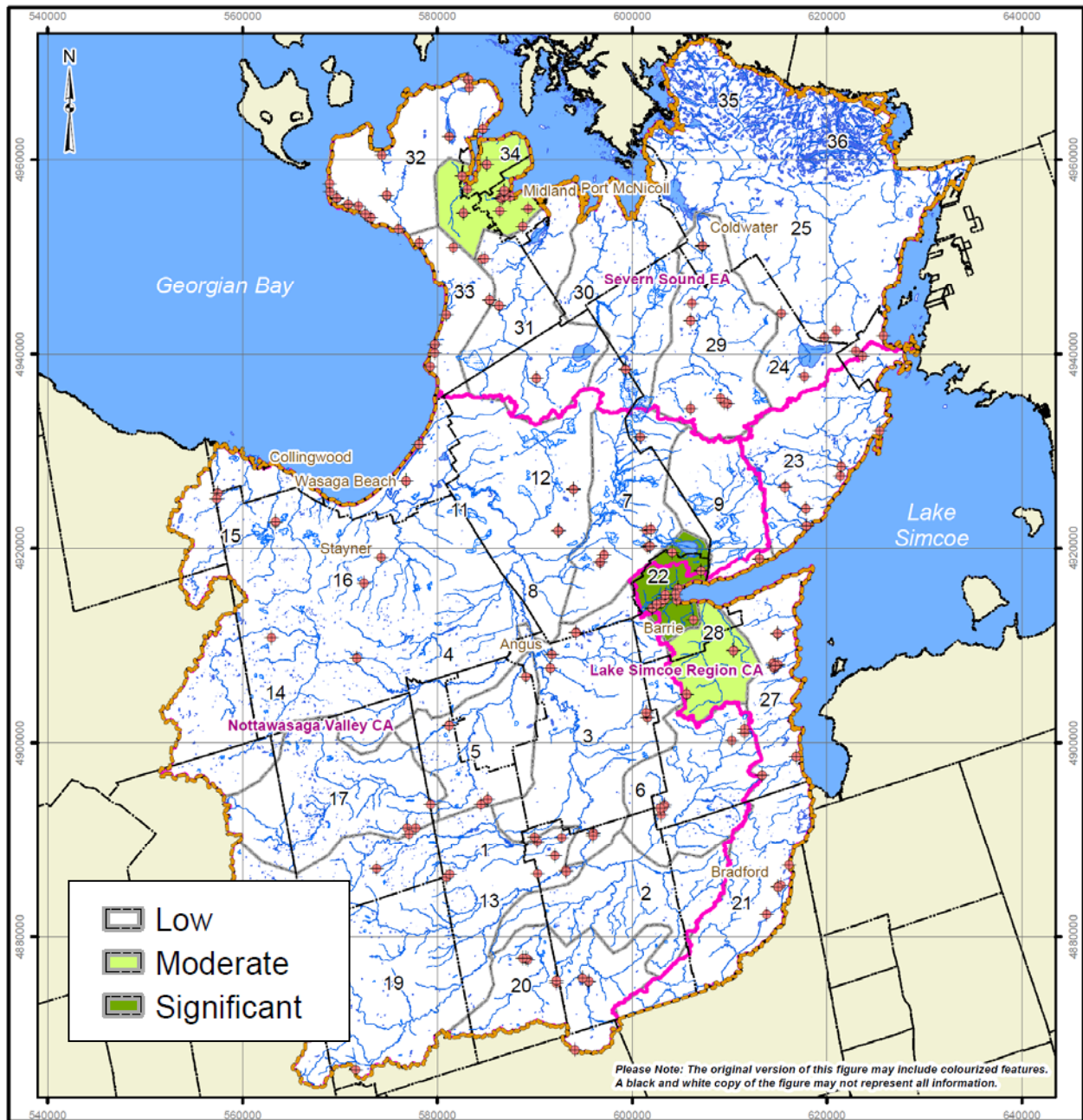


Figure 1: Proposed study area is identified as subwatersheds 22 - Barrie Creeks and 28- Lovers and Hewitts Creek (AquaResource Inc., 2010).