



CITY OF IQALUIT REQUEST FOR PROPOSAL
FOR THE DEVELOPMENT OF A WATER BALANCE FOR
LAKE GERALDINE



include the tasks as set forth in the costing submission, the proposed costs, costs to date, percentage invoiced to date and the percentage of work completed to date for each task.

No payment will be made for the cost of work incurred to remedy errors or omissions for which the consultant is responsible.

5.0 TERMS OF REFERENCE

5.1 Background

The water supply needs of the City of Iqaluit are currently met by the Lake Geraldine water storage facility. In order to meet Water License requirements, the City would like to complete a water balance on Lake Geraldine to explore watershed capacity to supply raw water to Lake Geraldine.

In 2004, a Raw Water Supply and Storage Review (see Appendix D) was completed for the City of Iqaluit. The objective of this report was to determine if the water needs of the City can be reliably met over a 20-year design horizon especially during the over-winter period when no alternative water source is available.

5.2 Objectives

The objective of this project is to:

- Complete a water balance report for Lake Geraldine.

5.3 Scope of Services

The work to be undertaken shall include but is not limited to the following:

5.3.1 Agency Approvals

This step will include the following:

1. Determine required amendments to the City of Iqaluit Water License and General Plan and assist the City in the amendment process;
2. Provide assistance to the City during any meetings with regulatory agencies or public consultations;
3. Prepare all submissions required for all agencies for the water licence application; and
4. Work with the agencies and the City in order to obtain the necessary approvals.



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5.3.2 Lake Geraldine Water Balance

A water balance for Lake Geraldine will be developed. It must be stamped by an engineer and must meet the requirements of the City's Water License. The water balance report should include an analysis of:

1. Factors that contribute to annual variability of water levels in Lake Geraldine (e.g. precipitation, evapotranspiration rates, water consumption rates, etc.);
2. Anticipated climate change trends and how they may impact the supply of raw water available from the Lake Geraldine Watershed and the timing of refill requirements;
3. Lake Geraldine's recharge needs to meet the City's long-term raw water demand; and,
4. What monitoring should be completed to track and predict the capacity of the Lake Geraldine Watershed to supply raw water to the City.

Where possible, this work should build on work completed in the 2004 Raw Water Supply and Storage Review; however, it should be noted that since this review was completed, more information has become available:

- In 2007, the Lake Geraldine watershed boundary was surveyed (see Appendix E for more details).
- In 2007, a detailed bathymetric lake survey was completed and statistics generated (see Appendix E for more details).
- In 2007, Environment Canada installed a hydrometric station close to the lake Geraldine outlet pipe (10UH013). This station is a water level station only. It allows for the association of the "zero depth level" of the bathymetric survey to a reference level (see Appendix F for more details).
- In 2007, Environment Canada also installed a hydrometric station (10UH012) on the inflow to Lake Geraldine. In 2011, the Water Survey reported that the stage-discharge relationship was under development (see Appendix F for more details).

5.3.6 Deliverables

The following deliverables will be required as part of the Project:

1. One (1) electronic (Microsoft Word) copy of the draft Water Balance Report;



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2. One (1) electronic (Microsoft Word) copy and three (3) hard copies of the final Water Balance Report; and
3. One (1) electronic (Microsoft Word) copy of the Revised Water Balance Report based on agency feedback.

5.4 Consultant Responsibility

As described above, the Consultant's responsibilities will include:

1. Completing a water balance on Lake Geraldine; and,
2. Assisting the City in obtaining all agency approvals for the Water License Application.

5.5 City of Iqaluit's Responsibilities

The City's responsibilities will include:

1. Reviewing proposals and selecting the successful proponent;
2. Entering into negotiations with and executing the contract with the successful proponent;
3. Providing Consultant with existing information and reports, as requested; and
4. Reviewing submissions and providing comments.

5.6 Project Submissions

Letter, preliminary, and final reports shall be presented on standard size paper (8 1/2" x 11"), and may be double sided, unless otherwise directed.

All electronic files to be submitted, shall be on CDs, and shall be in a format compatible with the City's format of choice (example, Microsoft Word and Excel).

Provision of the above, will be considered part of the requirements of the project.