

June 7, 2016

ADDENDUM TO REQUEST FOR PROPOSAL DOCUMENT
FOR
Moosomin Dam
Service Contract No. 5
Dam Safety Review
REQUEST FOR PROPOSAL # 4547:928-7P11-0-S1-5

Addendum No. 1

1. Section 4.2 of the Statement of Work is deleted and replaced with the following:

4.2 Site Investigation

A site investigation is required in order to assess the condition of the facilities, to observe operation and maintenance activities, and to collect the necessary data for the detailed analysis. The field inspection would include a review of the dam, dam instrumentation, discharge facilities, outlet works. The general stability of the reservoir slopes and evidence of slides or instabilities and their relation to dam safety should be addressed. Specific components of the site investigation will include but are not limited to:

- Drilling the embankment, foundation, abutments, and downstream area in order to determine specific material properties for stability modeling, confirm piezometric levels, and functionality of relief wells. Sampling is required throughout the entire depth of drilling in order to determine material changes for soil profiling and to obtain undisturbed samples for laboratory testing. Sampling and storage will be performed to allow for adequate laboratory testing (specifically direct shear and triaxial tests) for the determination of the material properties in order to perform slope stability modeling of the foundation and embankment. Local geology at the Moosomin Dam site possibly will cause artesian flow conditions in some boreholes. Therefore, drillers are expected to have materials and methods on site and available to control such flows in order to protect the safety of the Dam and the environment. The expected max depth (baseline) of exploration is 30 metres to obtain sufficient soil stratigraphy and samples to perform slope stability modelling of the Dam. Any instrumentation installed by the Consultant as part of the drilling program shall be compatible with existing AAFC instrumentation. The Consultant shall provide a description and rationale for their proposed drilling and sampling plan in the proposal. The exact details and cost of the full drilling and sampling program will be determined jointly between AAFC and the Consultant after award. For evaluation purposes, please include \$50,000 for the drilling program in the bid price;
- Underwater inspection and condition assessment of the upstream conduit, gatewell and gate, spillway forebay and basin, as well as any other critical infrastructure that is submerged. The preferred method of inspection is by certified commercial diver however a combination ROV and advanced sensor array investigation will be considered;
- Inspection and condition assessment of the downstream conduit by a professional certified in confined space entry when explosive gasses are present as the conduit is known to accumulate methane gas. Specialized equipment and training are needed for this type of entry;

- Inspection and condition assessment of the spillway including
 - Delamination soundings of the spillway and document with photos and marked up drawings the locations of any defects,
 - Coring of the walls and slab to determine the condition of the concrete and investigate the possibility of voids under the slab,
 - Inspection of the under-slab drainage system and conduct drain flushing if necessary;
- Other specialized inspection activities as necessary to fully evaluate the condition of the project. This may include pump testing and recovery monitoring on relief wells and/or piezometers, seepage tracing to identify spillway seepage water path, surveys to confirm elevations, dimensions, or layout of components if necessary,

AAFC will attempt to facilitate the requirements of a field inspection and make staff available. Following award of the Service Contract, the Consultant shall prepare a Site Specific Safety Management plan and submit for review by AAFC well in advance of the field inspection. The plan shall address all safety concerns and protocol to be followed while conducting the field inspection including safety of the public, safety of those conducting the work, and safety of those employed by other agencies that may be on site during the inspection. During the field inspection, the Consultant shall use due care and take all necessary precautions to ensure the protection of persons and property and shall comply with the provision of the applicable federal and provincial government agencies including but not limited to the Workers' Compensation Board and the Provincial Labour Occupational Health and Safety Board.

2. Section 7 of the Statement of Work is deleted and replaced with the following:

AAFC agrees to supply the Consultant with access to any relevant data concerning the history, hydrology, design, construction, operation, maintenance, repairs, instrumentation, and inspection involved with the project.

Water levels during the summer are typically at Full Supply Level. AAFC will endeavor to lower the reservoir slightly (<300mm) in advance of the inspection to facilitate the anticipated work.

AAFC will submit an application for Aquatic Habitat Protection Permit to Saskatchewan Ministry of Environment for the relevant portions of this project.

The Consultant shall closely coordinate their schedule with AAFC to facilitate field inspections.

3. There is no change in the proposal submission deadline which is:

Submissions will be received up to 2:00 p.m., local Regina time, July 5th, 2016.

4. Submissions shall acknowledge receipt of this Addendum No. 1.

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