

REQUEST FOR PROPOSAL FOR ENGINEERING CONSULTING SERVICES FOR WASAGAMACK FIRST NATION BULK FUELS/GAS BAR SITES PHASE II/III ESA PHASE II/III ESA		
Wasagamack First Nation (Request for Proposal Accepted)	_____	_____
	Chief	Date
	_____	_____
	Councillor	Date
	_____	_____
	Councillor	Date
	_____	_____
	Councillor	Date
Professional & Technical Services, Infrastructure & Housing, INAC (Request for Proposal Recommended to INAC)	_____	_____
	Project Officer	Date
Land, Env. Plan. & Mgmt. Indian & Northern Affairs Canada (Acceptance of Request for Proposal)	_____	_____
	Sr. Environment Officer	Date
Capital & Housing Services Indian & Northern Affairs Canada (Acceptance of Request for Proposal and Cash Flow Requirements)	_____	_____
	Capital Services Officer	Date

**TERMS OF REFERENCE FOR ENGINEERING
CONSULTING SERVICES FOR WASAGAMACK FIRST NATION
BULK FUELS/GAS BAR SITES PHASE II/III ESA**

INAC PROJECT NO:S308

August, 2009

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1.0 **INTRODUCTION**

The intent of these Terms of Reference is to invite proposals and retain engineering consulting services for the completion of environmental site assessments (ESAs) for three (3) sites on the Wasagamack First Nation (WFN). Different phases of assessment may be required, including Phase II, and III Environmental Site Assessments as well as Remedial Action Plans/Risk Management Plans (RAPs/RMPs).

Proposals are invited at this time, and will be followed by the selection and award of the contract by the WFN. Interested firms must submit five (5) copies of their proposal to the address below no later than **15:00 hours, local time, Friday, September 4, 2009.** The proposal submission envelope should read: "Engineering Consulting Services for Environmental Site Assessments on the Wasagamack First Nation" and be addressed to:

Wasagamack First Nation
c/o INAC Environmental Planning and Management
200 - 365 Hargrave Street
Winnipeg, Manitoba
R3B 3A3
Attention: Tebesi Mosala

The Scope of Work is presented in detail in Section 4.0 of this document. Within a Project Team environment, the Engineering Consultant shall provide engineering services to the WFN and will perform the work outlined in a substantial, cost-effective, complete and professional manner. The Engineering Consultant must furnish everything necessary for undertaking the work and shall not omit any details necessary for its proper performance and completion, even if specific mention of such details is not made in these Terms of Reference. It is expected that the Consultant shall employ scientifically defensible, appropriate and most reliable investigative practices.-

All procedures and environmental quality criteria are governed by regulatory guidelines identified in the most recent publications of Canada Wide Standards (CWS) for PHCs in Soil developed by the Canadian Council of the Ministers of Environment (CCME), and other CCME documents such as National Guidelines for Decommissioning Industrial Sites, Code of Practice for Aboveground Storage Tank Systems, and Environmental Quality Criteria for Contaminated Sites.

The Engineering Consultant is defined as a person, firm or corporation with a successful record of providing engineering services related to environmental projects to an approved scope of work, schedule and budget. The Consultant firm engaged for this work must hold a Certificate of Authorization issued by the Association of Professional Engineers and Geoscientists of Manitoba (APEGM), condition of which is holding professional liability insurance. In addition, the lead engineer assigned to this work must be registered or licensed to practice engineering with the APEGM and attend all project meetings. Proof of the firm's Certificate of Authorization, the lead engineer's registration, and the firm's professional liability insurance are mandatory requirements for the Design Consultant's proposal as outlined in Appendix "F".

The Project Team for this work shall consist of: representatives of the WFN; an Indian and Northern Affairs Canada (INAC) Capital Services Officer; an INAC Environment Officer; and an INAC Project Manager. Members of the Project Team will be present at the opening of the proposals and undertake their review and rating as outlined in Section 9.0 and Appendix "F".

The terms of a contract for this work will be negotiated with the Engineering Consultant with the highest rated proposal. The contract will be between the Consultant and the Wasagamack First Nation using INAC's CN-2 document, "Contracting for Professional Services by First Nations and Aboriginal Communities" (see http://www.ainc-inac.gc.ca/ps/hsg/cih/dl/cps_e.html). This Terms of Reference and the Consultant's proposal shall be a component of the contract between Wasagamack First Nation and the successful engineering consulting firm. This Terms of Reference shall govern in the event of discrepancies or conflicts between the two documents.

2.0 BACKGROUND

Wasagamack First Nation is located approximately 607 kilometres northeast of Winnipeg and approximately 281 kilometres southeast of Thompson. The total land base for the community is 35,397.6 acres (15,578.2 hectares).

The total on-reserve population as of June 2009 was 1,733 individuals, 1587 of those on reserve. Wasagamack First Nation is a signatory to the 1909 adhesion Treaty No. 5. The main dialect is Oji-Cree, however English has also become part of the everyday language.

The community has no year-round access to a service centre. The community is accessible by plane and boat in the summer and by winter road in the winter. On-reserve community facilities include a band office, indoor arena, radio station, television station, police station, nursing station and a school.

The following terms of reference have been developed for the Phase II / III ESA, NCS Scoring and Hazard Analysis with respect to characterization of possible hydrocarbon (PHC) contamination at the Wasagamack Bulk Fuels/Gas Bar Site, in the Wasagamack First Nation community.

The purpose of the intrusive site assessment is to gather applicable site data to update previous assessment work through detailed characterization of the site including: delineation of the contaminate plumes, identification of possible human health implications, quantifying affected soils, establish preferred options for the development of a remediation action plan and determine associated costs (Class C). It should be determined during the assessment whether or not the site requires immediate interim actions to ensure human health and the environment are not imminently compromised.

In May 2006, INAC launched a 3-year project to inventory and assess on reserve fuel storage tanks funded by the Federal Contaminated Sites Action Plan (FCSAP) titled the Petroleum Fuel Storage Tank Systems Assessment Report. The inventory was the first phase of a management strategy to address the environmental issues and departmental liabilities surrounding fuel storage tanks.

The objectives of the project were to:

- Develop a comprehensive inventory of on-reserve fuel storage tanks;
- Assess whether soil contamination from petroleum hydrocarbons exists at applicable tank sites;
- Determine whether each tank is in compliance with Canadian standards;
- Review the existing registration forms for all fuel tanks 4,000 L and larger;
- Provide and present information and results to allow INAC and/or First Nations to develop plans of action to address tank deficiencies and/or contamination issues.

The fuel tank project identified ten (10) tank sites within Wasagamack First Nation. However, the Terms of Reference for these ESAs will focus only on three (3) sites: a) the Bulk Fuels/Gas Bar Site; b) Bulk Fuels; and c) Education Authority.

The initial field inspection revealed contamination at these three sites. In each case, a Phase II ESA was

recommended within the final report.

A location of WFN and a site plan is shown in Appendix “A”. The available background information regarding all the three sites and related pictures from the Neegan Burnside Report is included in Appendix “B”.

a) The Bulk Fuels/Gas Bar Site

The Petroleum Fuel Storage Tank Systems Assessment Report identified that there are ten tanks (tanks 29906A1 through 29906A10) located at this site. Tanks A1 and A2 are in service while tanks A3 through A10 are no longer in service.

The pictures associated with the report depict soil contamination. A Phase II ESA is recommended as there is soil contamination as the side of the gas tank, approximately 5 square metres.

The Petroleum Storage Tank Systems Assessment Report also identified urgent and non-compliance issues for each site. The urgent and non-compliance issues identified for the Bulk Fuels/Gas Bar Site are identified below.

Urgent Issues:

1. Replace leaky hose for tank A1.

Non-Compliance Issues:

1. Provide grounding for tanks A1 and A2.
2. Install vehicle crash protection.
3. Install dyke for all tanks.
4. Repair leaks at the suction pump hose for tank A2.
5. Install emergency breakaway hose.
6. Provide anti-siphon valve installed.
7. Remove combustible support, provide concrete pad.
8. Provide fire extinguisher and spill kit.
9. Install operational/safety signage.
10. Install emergency stop button.
11. Repair internal pump.
12. For tanks not in use (Tanks A3 through A10), clean any remaining product from tank, cut in half, and send to scrap yard.

b) Bulk Fuels

As per Neegan Burnside report, there are nine (9) tanks (29906A1 to A9) located at this site and some contamination staining was evidenced. As a result, further investigation was recommended. See Appendix B for further details including site photographs..

In addition, the following issues were documented:

Urgent Issues:

1. Provide 3” vent for tank A1
2. Repair 3” nipple at threaded flange for tank A2
3. Repair leaky 3” x 2” red bushing for tank A2
4. Repair flex at 90° elbow for tank A2
5. Repair 2” tee’s and 3” vent for tank A2
6. Repair 3” vent and repair 90° elbow connection for tank A3

7. Repair 3" check valve, nipple and tee for tank A4
8. Repair 2" union and flex for tank A5
9. Repair 3" vent for tank A5, A6, A7 & A8
10. Repair 3" nipple and flange for tank A7

Non-Compliance Issue(s):

11. Provide grounding for all tanks
12. Repair vent for tank A9
13. Install pressure relief
14. Install vehicle crash protection
15. Provide product ID and capacity decals
16. Install dyke and proper liner for the site (see photo)
17. Provide vents and caps for all tanks (see photo)
18. Provide electric closed valves (solenoids)
19. Repair leaking threaded nipple joints for tank A2(see photo)
20. Repair threaded 90° elbow for tank A3(see photo)
21. Repair leaking fitting for tank A4 (see photo)
22. Repair leaking tee's for tank A6(see photo)
23. Repair leaking fitting for tank A7 (see photo)
24. Provide ladder for tank A9
25. Provide ULC/ serial number for tank A4
26. Provide spill control at loading rack, pour concrete pad
27. Provide fire extinguisher and spill kit
28. Install operational/safety signage
29. Install emergency stop bottom.

c) Education Authority

Two tanks were identified at this site along with some surface staining and compliance issues. The latter are described below with further information in Neegan Burnside Report (Appendix B).

Urgent Issues:

Repair leaky discharge piping for both tanks (see photo)

Non-Compliance Issue(s):

2. Provide product ID and capacity decals
3. Provide vents and vent cops for all tanks (see photo)
4. Install spill containment at fill pipe
5. Install shut off valves and anti-siphon valves on both tanks
6. Provide ladders on both tanks to allow for inspection maintenance (see photo)
7. Provide fire extinguisher and spill kit
8. Install operational/safety signage
9. Install emergency stop button.

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3.0 OBJECTIVES

The purpose of these intrusive environmental site assessments (ESAs) is to gather applicable site data that

will provide a detailed characterization of each site including: delineation of the contaminate plumes, identification of possible human health implications, quantifying affected soils, establish preferred options for the development of a remediation action plan and determine associated costs (Class C). It should be determined during the assessment whether or not each site requires immediate interim actions to ensure human health and the environment are not imminently compromised.

The objectives of this project are to complete the ESAs at various levels (i.e. ESA Phase II and III) for all three sites on the Wasagamack First Nation as described in Appendix “B”. In addition, a Remedial Action Plan/Risk Management Plan (RAP/RMP) is required for any site at which a Phase III ESA will be performed.

The ESAs are to be completed in compliance with the following:

- a) Phase II ESA as per as per Canadian Standards Association Z769-00 and Steps 3 and 4 of the document, “A Federal Approach to Contaminated Sites”; and
- b) Phase III ESA as per Steps 5 and 6 of “A Federal Approach to Contaminated Sites”.

All environmental quality criteria and procedures used for this work shall be governed by the most recent, Canadian Council of the Ministers of Environment (CCME) guidelines and protocols (see CCME publications at http://www.ccme.ca/publications/list_publications.html), including but not limited to the following:

- a) Canada-Wide Standard for Petroleum Hydrocarbons in Soil (PHC CWS);
- b) CCME Canadian Environmental Quality Guidelines;
- c) Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites, Volume I: Main Report;
- d) Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites, Volume II: Analytical Method Summaries;
- e) Subsurface Assessment Handbook for Contaminated Sites;
- f) Guidance Manual for Developing Site-Specific Soil Quality Remediation Objectives for Contaminated Sites in Canada;
- g) Guidance Document on the Management of Contaminated Sites in Canada;
- h) Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method;
- i) Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; and
- j) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health; and
- k) Guidance Document for the CCME National Classification System for Contaminated Sites (2008);
- l) Health Canada’s “Environmental Site Characterization” Guidance.

4.0 SCOPE OF WORK

The scope of work for this Project is to provide all engineering services to complete all required environmental assessments for the identified sites on the Wasagamack First Nation.

The scope for each type of assessment (i.e. Phase II, and III ESA), including the tasks and associated activities, are outlined in Appendix “C”.

Appendix “B” identifies the contaminated site and the following information relative to the site: site number; site name; location; assessment type; cost estimate and brief description and available background information.

The estimated field requirements for the contaminated sites are summarized below. **The Consultant should base their proposal on these estimated total field investigation requirements.**

- a) Drilling a minimum of 48 boreholes to auger/drill refusal or limit of contamination with refusal confirmed on bedrock;
- b) logging the soil stratigraphy of each borehole (or test pit, where appropriate);
- c) field screening soil samples at regular intervals from each borehole/test pit for hydrocarbon concentrations;
- d) obtaining a minimum number of representative soil samples as shown below, based on field screening and carrying out the following laboratory analyses:
 - grain size analysis tests (3 tests/site);
 - Atterberg Limits tests (3 tests/site);
 - tests for F1-F4 Fractions (48 tests);
 - tests for BTEX (48 tests); one test per site should be analyzed for wider range of other chemicals of potential concern such as lead, ethylene dibromide, naphthalene, etc (based on the historical usage of the site);
- e) Installing a minimum of 3 groundwater monitoring wells per site within and down-grade from identified plumes to assess migration, direction, and possible impacts to groundwater and obtain water samples;
- f) Obtain water samples - one from each of the groundwater monitoring wells, and carrying out the following laboratory chemical analysis:
 - tests for F1-F4 Fractions; and
 - tests for BTEX;
 - One groundwater sample per site should also be analyzed for wider range of chemicals of potential concern such as lead, ethylene dibromide, naphthalene, etc (based on the historical usage of the site)
- g) disposing of borehole and test pit tailings appropriately;
- h) complete a site classification based on the National Classification System for Contaminated Sites and determine the actual or potential impacts and risks;
- i) georeferencing borehole/test pit locations to survey grade accuracy (not less than 3 cm horizontal and 5 cm vertical) using GPS instrumentation and providing the georeferenced locations in ESRI ArcGIS shape file format in UTM, NAD83 datum, **OR** other acceptable methods to achieve the same results or better.

The site requirements listed above are approximate and are provided for guidance only. These site requirements may be altered based on initial field investigation results and the consultant’s judgment in consultation with the Project Team.

Proposals for any additional geotechnical investigations must be received for review by the Project Team prior to commencing the investigations. The project includes a \$15,000 cash allowance as shown on the cost of services form. If additional field investigations are required, the Consultant will be paid from this allowance based on invoices without any mark-up. Where costs under a cash allowance exceed the amount of the allowance, the Consultant will be compensated for any excess incurred and substantiated.

The duties of the Engineering Consultant in performing the work shall include, but are not necessarily

limited to the following:

- a) Meeting with the Project Team:
 - upon award of the Consulting Engineering Services contract to discuss and clarify any uncertainties or concerns prior to starting the work;
 - prior to beginning the site investigations to discuss and agree upon the program including borehole/test pit procedures, locations (shown on a site plan), sampling and laboratory testing; and
 - upon completion of the draft ESA and RAP reports to present and discuss the reports.
- b) Conducting a preliminary field reconnaissance of each environmental site prior to developing the site investigation program. This field reconnaissance must take place prior to any significant snowfall which might impair visual observations.
- c) Carrying out all required site investigations, field survey work, and laboratory testing. Costs of the site investigation work shall be based on the estimated field investigations as outlined in the Scope of Work. If additional investigations are required, the Design Consultant will be paid from the project cash allowance based on invoices without any mark-up. Proposals for any additional geotechnical investigations must be reviewed and approved by the Project Team prior to commencing the investigations.
- d) Maximizing utilization of Wasagamack First Nation labour and resources in undertaking this work, where possible, including hiring an Wasagamack First Nation field assistant for the duration of the field investigations. The proposal should budget for the cost of a field assistant for a minimum of 80 hours at \$15/hour (i.e. \$1200) not including payroll burden. The Design Consultant will be reimbursed for actual hours.
- e) Ensuring that all required approvals have been obtained.
- f) Ensuring that all Workplace Health and Safety Regulations are met.

5.0 REPORTING

The Design Consultant shall prepare both draft and final versions of the following two written reports:

- a) ESA report summarizing the ESA work completed at the site; and
- b) RAP/RMP report summarizing the RAP/RMP work required at either site.

The ESA report shall include Site Closure Forms (see Annex “1” of Appendix “C”) for each site, if contamination is minor and can be easily handled as part of this investigation with no further action required, as may be recommended by the consultant

The Design Consultant will meet with representatives from Wasagamack First Nation and INAC to present the draft reports for discussion. Thereafter, written comments submitted to the Design Consultant will be considered and integrated into the reports prior to finalizing. Second drafts of each report may be requested depending on the extent of the comments on the first drafts.

The two reports will include a detailed description of the methods employed, results obtained and interpretation of finding, and will be in conformance with the requirements outlined in Appendix “C”. The reports should also include, but are not limited to:

- a) all physical site information including baseline information, survey site plans, photographs and appropriate maps and sections;
- b) descriptions of investigative methodology and procedures employed including borehole logs, field soil screening results, laboratory test results and quality control analysis;

- c) site plans showing all sampling points clearly displayed spatially in plan and section and including groundwater elevations, contours, directions of flow and areal extents of soil and groundwater impacts; the plans should also show buried utilities traversing the site and other relevant site features (structures, hydro poles, manholes, etc.);
- d) laboratory test results summarized in tables with the applicable environmental quality criteria and/or standards used for the numerical comparison;
- e) on-site screening test results correlated to and illustrated (i.e. tables and graphs) with the confirmatory sample results;
- f) completed FCSAP (Federal Contaminated Sites Action Plan) Scoring System rating for each site (append to ESA report);
- g) discussion of the results; and
- h) conclusions and recommendations for remedial action based on findings of the investigations and associated remedial costs (Class "C") as outlined in Appendix "C".

The Design Consultant shall provide:

- a) Four (4) hard copies each of the draft and final ESA and RAP reports printed two-sided; and
- b) Two (2) copies each of the electronic version of the draft and final ESA and RAP reports, one in Adobe PDF format and one in Microsoft Word (or equivalent) format; electronic versions must include all site photographs, site plans, test pit and borehole logs, laboratory certificates of analysis, and other supporting documentation and related material.

The draft and final reports shall be submitted to the Project Team contact for distribution as follows:

Wasagamack First Nation Fuel Tank Contamination Project
Indian and Northern Affairs Canada
200 - 365 Hargrave Street
Winnipeg, Manitoba
R3B 3A3
Attention: Tebesi Mosala.

6.0 PROJECT SCHEDULE

Commencement of the work may begin upon award of the contract and verbal confirmation from the INAC Project Manager.

The Consultant shall provide a project work schedule at that time and inform the INAC Project Manager of any subsequent changes immediately.

The milestones for the tentative project schedule are as follows:

Proposal Submission Deadline:	September 4 2009
Contract Award:	September 2009
Completion of Field Activities:	September 2009
Submission of Draft Reports:	October 2009
Submission of Final Reports	November 2009

The Consultant must finalize the draft reports within two weeks of receiving comments from the Project Team.

7.0 **TERMS OF PAYMENT**

The Consultant will on a monthly interval, submit an invoice detailing the services performed in accordance with the terms of the Consulting Engineering Services contract.

This is a fixed price contract. The Consultant shall submit a fixed price, which includes all fees and disbursements (including field investigation costs), to perform the duties specified in these Terms of Reference. The fee shall be broken down into fixed hourly costs for each member of the Consultant's team as well as disbursements for the specified duties. A cash allowance of \$15,000 for additional field investigations shall also be included. This information must be shown in a chart, in matrix form.

The estimated field investigation requirements are as outlined in Section 4. The Consultant should base their proposal on these estimated field investigation requirements. The project includes \$15,000 for additional field investigations as shown on the cost of services form. If additional field investigations are required, the Consultant will be paid from this allowance based on invoices without any mark-up. Proposals for any additional geotechnical investigations must be received for review by the Project Team prior to commencing the investigations. Where costs under a cash allowance exceed the amount of the allowance, the Consultant will be compensated for any excess incurred and substantiated.

If additional site visits are deemed necessary by the Project Team, their costs will be paid based on invoiced fixed hourly rates and approved travel disbursements. Costs associated with additional work not specified in this Terms of Reference shall be based on fixed hourly rates submitted in the Consultant's proposal and approved disbursements. Any additional site visits must be approved by the INAC Project Manager.

The following costs, as applicable, shall be included in the fixed price submitted by the Consultant and shall not be reimbursed separately:

- a) estimated field investigations requirements as outlined in Section 4;
- b) reproduction and delivery costs of drawings, CADD files, specifications, and other technical documentation specified in this Terms of Reference;
- c) standard office expenses such as photocopying, computer costs, Internet access and use, cellular phone costs, long distance telephone and fax costs, including that between the Consultant's main office and branch offices or other team members offices;
- d) courier and delivery charges for specified deliverables;
- e) equipment used to geo-reference boreholes and test pits (i.e. survey/GPS equipment);
- f) plotting;
- g) presentation material;
- h) parking fees;
- i) taxi charges;
- j) travel time;
- k) travel expenses; and
- l) local project office.

The following disbursements reasonably incurred by the Consultant for additional site visits or other supplementary work not specified in this Terms of Reference, that are related to the services required and approved by INAC Project Manager shall be reimbursed to the Consultant at actual cost:

- a) reproduction and delivery costs of drawings, CADD files, specifications, and other technical documentation additional to that specified in this Terms of Reference;
- b) transportation costs for material samples and models additional to that specified in this Terms of

Reference;

- c) project related travel and accommodation additional to that specified in this Terms of Reference shall be reimbursed in accordance with current Treasury Board Travel Policy; and
- d) other disbursements made with the prior approval and authorization of the INAC Project Manager.

Generally, disbursements for additional site visits or other supplementary work shall be project-related and shall not include expenses that are related to the normal operation of the Consultant's business. Approved disbursements are to be detailed in the invoice submission. Supporting documentation for approved disbursements will be required. Disbursements will be paid for at cost as incurred by the Consultant. No payment will be made on the cost of work incurred to remedy errors or omission for which the Consultant is responsible.

8.0 COST CONTROL

If at any time during the progress of work, the Consultant anticipates that the costs outlined in the contract may be exceeded, either by some unforeseen event or change in the scope of work, the Consultant shall immediately notify the INAC Project Manager.

At no time shall the costs for engineering services be exceeded without the written authorization of the INAC Project Manager.

9.0 PROPOSAL EVALUATION AND SUBMISSION INFORMATION

9.1 PROPOSAL

9.1.1 Mandatory Requirements

Mandatory requirements, which the Consultant must provide in their proposal, are listed below.

- a) Proof that:
 - the firm has a Certificate of Authorization issued by the Association of Professional Engineers and Geoscientists of Manitoba (APEGM), a condition of which is holding professional liability insurance;
 - the lead engineer assigned to the work is registered or licensed to practice engineering by the APEGM; and
 - the firm has professional liability insurance.
- b) Submission of a fixed price for the specified services in a separate cost envelope on the "Cost of Services Form" in Appendix "D". The fixed price shall be broken down into the consultant's fees and disbursements for the specified duties and include a \$15,000 cash allowance for additional field investigations, if required.
- c) Listing of three references from three different organizations for which the Consultant has performed similar work. The reference listing information must include the contact name, current telephone number and facsimile numbers, and a short description of the individual's role in the project.

Failure to provide any of these may result in rejection of the proposal and its return with "Cost of Services Form" unopened. At the discretion of the Project Team, the consultant may be given an additional 24

hours to provide proof of any mandatory requirement. However, the consultant must have had the requirement at the closing date for proposal submissions and inadvertently forgot to supply it with their proposal.

9.1.2 **Format**

The Consultant shall submit five hard copies of a proposal in response to these Terms of Reference. As well, an electronic version in Adobe PDF format on CD is to be provided by **the successful consultant soon after notification**. Consultants are requested to submit proposals that conform exactly to the following section headings and requirements. Failure to conform will impair the proposal review process, possibly to the detriment of the proposal.

- a) An **“Introduction”** section providing a brief description of the Consultant’s recent, relevant experience (in the last 5 years), comments on the proposed scope of work, and an overall approach to the work.

The introduction shall also identify assigned and backup staff and any sub-consultants, and their qualifications, registration and value-added to the project. The principal Project Team contact and the distribution of responsibilities for each Project Team member should also be identified.

- b) A **“Work Plan”** section demonstrating an understanding of the project’s goals and objectives, the project site and environment, specific technical considerations and potential issues and constraints.

The section should clearly outline the methodology and associated tasks required to complete the work, including a task matrix with hourly rates for each Project Team member (including sub-consultants), the expected time allocation for each, and a schedule of disbursements. The use of specialized services, such as lab analysis, should also be shown. Where applicable, this information should be illustrated through the use of charts, tables, and graphs.

- c) A **“Project Management”** section including an organization chart, a schedule in bar chart form, and a description of the management methods that shall be used to ensure that the work is done in a manner that satisfies project quality, time and cost objectives.

This section shall also identify Consultant initiatives, if any, to assist Wasagamack First Nation professional development and skills transfer, including utilization of Wasagamack First Nation labour and resources.

- d) A **“Management Costs”** section showing the fixed price costs to perform the duties specified in these Terms of Reference.

9.1.3 **Fees and Disbursements**

As outlined in Section 7, this is a fixed price contract. The Consultant shall submit a fixed price, which includes all fees and disbursements (including field investigation costs) and a separate \$15,000 cash allowance for additional field investigations that may be required. The information must be summarized on the attached **“Cost of Services Form”** and submitted in a separate cost envelope.

9.1.4 Other Requirements

The Consultant's proposal shall also include the following:

- a) A letter of transmittal, separate from the proposal, signed by an authorized officer.
- b) An appendix showing the curricula vitae of the proposed Project Team staff of the Consultant and any sub-consultant(s).
- c) If the Consultant is employing a sub-consultant, a copy of the sub-consultant's proposal to perform their portion of the work. Proof of sub-consultant registration and professional insurance is to be provided with proposal.

In order to be considered, proposals or amendments thereto must be received on or before the exact time and date for the receipt of proposals. Please note the lowest priced, or any proposal, will not necessarily be accepted.

9.2 Consultant's Questions

A Consultant may submit a question by fax and request that the question and answer not be circulated to other Consultants. If the question points to an error or shortcoming in this request for proposals, the Project Team reserves the right to ignore the Consultant's request and notify all interested Consultants of the error and associated correction. If the information is not critical, but the Project Team judges it fair to circulate the answer to all Consultants, the enquiring Consultant will be given the opportunity to withdraw the question.

If none of the above conditions exist, and the question reveals a Consultant's unique proposal strategy, then the Project Evaluation Team will honor the request and respond only to the enquiring Consultant.

Questions can be directed to:

Derek Pena INAC Project Officer, at (204) 983-4315; or

Tebesi Mosala, INAC Environment Specialist, at (204) 984-0711.

The last day for questions is Wednesday, September 2, 2009.

9.3 Evaluation Team

Members of the team evaluating the Consultant proposals shall consist of two representatives from Wasagamack First Nation, INAC Capital Services Officer and the INAC Project Officer.

9.4 Proposal Evaluation

The criteria to be used to evaluate the Consultant proposals are attached in Appendix "E".

APPENDIX “A”

LOCATION OF SITE TO BE INVESTIGATED

Figure 1- General Key Location Map

Figure 2 – General Site Location

These maps can be viewed at INAC’s office: Please contact Derek Peña @ (204) 983-4315

APPENDIX B

**NEEGAN BURSIDE 2007 REPORT
PETROLEUM FUEL STORAGE TANK SYSTEMS ASSESSMENT
WASAGAMACK FIRST NATION**

This report can be viewed at INAC's office: Contact Derek Peña at (204) 983-4315

APPENDIX “C”

ENVIRONMENTAL SITE ASSESSMENT GUIDELINES

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1.0 INTRODUCTION

Generally, the scope for each type of environmental site assessment (i.e. Phase I, II, and III ESA) in this project includes the tasks and associated activities as outlined in the following sections. For each type of assessment, the Consultant will summarize the results in a report, which includes, but is not be limited to, a description of activities undertaken, findings, analytical results, discussion, conclusions, recommendations, photographs, cross-section and maps.

The scope for Remedial Action Plans/Risk Management Plans (RAPs/RMPs) to be carried out in conjunction with the Phase III ESAs is outlined in Section 5. Generally, the RAP/RMP for a site will evaluate remediation alternatives and recommend a preferred alternative that can be used as a blueprint in future site redevelopment.

Section 6 outlines the field investigation protocols to be used in conjunction with the environmental site assessments.

2.0 PHASE I ENVIRONMENTAL SITE ASSESSMENT

Generally, the purpose of the Phase I ESA is to identify potential contaminated areas on a site based on past activities and the contaminants of concern. A Phase I does not include a subsurface drilling, sampling or laboratory testing.

In accordance with CSA Z768-01 and as per “Appendix B: Generic Statement of Work for a Historical Review”, in “A Federal Approach to Contaminated Sites” (see steps 1 and 2; available at http://www.ec.gc.ca/etad/csmwg/pdf/fed_aprch_e.pdf), the Consultant will carry out the following work, subject to site-specific environmental issues or other factors:

- a) Compile and review all relevant information, including (but not restricted to) the following sources and types:
 - previous reports/documents completed for the property, such as environmental audits, environmental site assessments, environmental baseline studies, well drilling and geotechnical reports (including test pits and borehole logs) for the property;
 - geological, hydrogeological, soil and biological reports or surveys;
 - aerial photographs and fire insurance plans;
 - Land Claim and Treaty Land Entitlement searches;
 - property title, individual interest in land certificate and/or lease searches;
 - topographic maps and site drainage plans, including areas of fill or water course realignment;
 - water quality records for surface water and groundwater;
 - site climatological data (e.g. temperature, precipitation, wind speed and direction);
 - company records (if applicable);
 - interviews with current and former employees or residents, as well as individuals with knowledge of the site and surrounding areas;
 - facility plans, specifications and drawings;
 - drawings and inventories of raw materials, product and fuel storage areas, and transfer points;
 - details of waste storage, treatment and disposal areas, and operational and monitoring data;

-
- departmental and regulatory agency compliance files documenting historical on-site spill events and any remedial activities;
 - rare/endangered species registry for the area;
 - asbestos and urea-formaldehyde foam insulation (UFFI) surveys;
 - diagrams of any underground utilities, structures, piping, workings, injection wells or storage tanks, and their operational history;
 - laboratory operational practices, chemicals used and waste handling and disposal methods;
 - operation and maintenance procedures for all components of the facility, and materials utilized;
 - information relating to past or existing equipment containing PCBs;
 - pest and weed control practices used on the site, including types of biocides used, application area and disposal practices; and
 - pertinent federal, provincial/territorial and municipal regulations.
- b) Conduct a site visit to determine any visible signs of contamination and characterize the general extent of contamination. The site visit should include the taking of GPS coordinates to geolocate areas of contamination, concern or interest.
- c) Use the information gathered during the investigations in paragraph a) of this section to determine the following:
- all areas of potential environmental concern located within the current site under investigation;
 - the likely contaminants and the periods during which contaminant-producing activities likely occurred;
 - locations of all hazardous waste storage or waste disposal sites that may or may not be contaminated, but formerly contained substances of environmental concern;
 - the locations of valued ecosystem components (VECs) including potential human and/or animal receptors; and
 - the locations of monitoring and drinking water wells including the results of water quality testing.
- d) Prepare a report describing the findings of the historical review activities. The summary shall include, but is not limited to:
- A statement whether no further investigation is required or if initial field testing is warranted.
 - Where the potential for site contamination is indicated by the available site information, the report shall describe the following:
 - the contaminant type and sources; and
 - the areas and media of concern that must be addressed by an initial field testing program.
 - In anticipation of potential issues surrounding stale dating of the Phase I ESA, the Consultant should give recommendations that would create criteria for possible future reassessment requirements of the site.
 - In response to the Indian and Inuit Affairs Business Line (IIABL) Compliance Strategy Framework, the Consultant is required to state the number of people hired for this work, and of those people, how many were Aboriginal, Inuit or Metis.

- Copies of all documentation obtained in the historical review of the subject property are to be included in the appendices of the report, as well as a completed IIABL Record of Site Management and Closure (Appendix I) if Phase I ESA concludes there is no contamination or where phase II ESA indicate minor contamination that can be handled as part of the investigation With no other action recommended.
- The Consultant is required to provide information on a site by site basis, including a breakdown of expenditures, even if a number of sites are addressed on a project basis.
- Where contamination is suspected, include a completed ESSIMS Data Input Sheet (Appendix III).

3.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT

Generally, the purpose of the Phase II ESA is to confirm the absence/presence and nature of site contamination, usually through a subsurface investigation (i.e. boreholes, test pits, sampling and laboratory testing). The Phase II ESA is performed in response to recommendations outlined in the Phase I ESA regarding identified areas of potential environmental concern.

In accordance with CSA Z769-00 and as per “Appendix C: Statement of Work for an Initial Testing Program”, in “A Federal Approach to Contaminated Sites” (see steps 3 and 4; available at http://www.ec.gc.ca/etad/csmwg/pdf/fed_aprch_e.pdf), the Consultant will carry out the following work, subject to site-specific environmental issues or other factors:

- a) Design a field sampling and analytical program to characterize potentially contaminated areas based on the results of the Phase I ESA or other available information.
- b) The proposed program shall include (but may not be limited to) the following:
 - identification of media to be sampled and appropriate sampling equipment and procedures;
 - sample preservation and shipping requirements;
 - proposed analytical procedures;
 - field and laboratory QA/QC procedures and measures;
 - proposed sampling locations, with an explicit rationale for those locations;
 - description of test pitting, borehole and monitoring well installation and development procedures;
 - screening methods (e.g. visual, olfactory, photo-ionization detector (PID) to be used;
 - non-intrusive investigation methods (e.g. geomagnetic, ground-penetrating radar) to be used;
 - expected end-point for data (e.g. hydrogeological/contaminant loading model, preliminary volumetric estimate of contaminated material, preliminary ecological risk assessment, etc.);
 - compilation, assessment and integration of any additional data or information;
 - an investigation team, with alternates identified for key personnel;
 - georeferencing of individual sample locations and geographic features (e.g. streams, roads and trails, and wells and storage tanks) including the longitude and latitude of individual contaminated sites and/or GIS line/polygon data outlining contaminated sites within the subject property; the georeferenced data shall be collected to survey grade accuracy (not less than 3 cm horizontal and 5 cm vertical) and in accordance with the general principles outlined in the Natural Resources Canada (NRCan) - Geodetic Survey Division publication available at their web site: “Guidelines and Specifications for GPS

Surveys (1992)”; the georeferenced data shall be provided in ESRI ArcGIS geodatabase format in UTM, NAD83 datum with single layers for each of the point, line and polygon feature type;

- a Health and Safety Plan encompassing expected site hazards, location(s) and directions to the nearest aid facility, personal safety equipment requirements, personnel and equipment decontamination procedures, exclusion zones and restrictions to public access, site health and safety rules, and preventive measures; and
- a communications plan between the Consultant and INAC, and the community.

After approval by INAC, complete the sampling and analytical program with consideration of the field investigation protocol summarized in Section 6.

All samples submitted for laboratory analysis must be submitted to a Canadian Association of Environmental Analytical Laboratories (CAEAL) accredited and certified laboratory.

- c) The field work undertaken during the investigations in paragraph a) of this section shall be used to:

- determine whether surface contamination is present in excess of applicable guidelines (CCME) or any other guidelines identified by the Project Team by taking surface water and sediment samples from bodies of water in the immediate vicinity of the site (e.g. ponds, rivers, creeks, lakes or other runoff areas);
- determine whether subsurface contamination is present in excess of applicable guidelines (CCME, provincial) by taking subsurface soil and groundwater samples from the areas of potential environmental concern previously identified;
- gather general information about the site, such as:
 - soil characteristics;
 - subsurface geology;
 - site hydrogeology;
 - surficial drainage patterns;
 - location of nearest structures and down gradient monitoring and drinking water wells;
 - probable source(s) of contamination; and
 - other relevant topographical information.
- establish background levels of contamination at sites where on-site contaminant levels exceed applicable (CCME) guidelines or any other applicable guidelines identified by the Project Team; and
- develop an initial conceptual model identifying potential contaminants, exposure pathways and potential receptors of concern.

- d) Prepare a report that includes, but may not be limited to:

- Description of the field investigation results, including a discussion of contaminated zones, the potential for contaminant migration, and effects of off-site contamination.
- A statement as to whether:
 - no further investigation is required; or
 - an additional detailed testing program is warranted.
- Where the potential for site contamination is indicated by available site information, the report shall describe:
 - the contaminant types;
 - sources and extent of contamination; and

- the areas, media and receptors of concern that must be addressed in a detailed testing program or a risk assessment.
- In the event that contamination is discovered, the contaminated site(s) shall be classified using the most recent version of the CCME Nation Classification System (NCS) for Contaminated Sites (2008), which will help to prioritize the site for future investigations and/or risk management activities.
- In anticipation of potential issues surrounding stale dating of the Phase II ESA, the Consultant should give recommendations that would create criteria for possible future reassessment requirements of the site.
- A completed IIABL Record of Site Management and Closure form (see Appendix I) will be included as an appendix to the report if Phase II ESA concludes there is no contamination.
- In response to the IIABL Compliance Strategy Framework, the Consultant is required to state the number of people hired for this work, and of those people, how many were Aboriginal, Inuit or Metis.
- The Consultant is required to provide information on a site by site basis under each project, including a breakdown of expenditures, the CCME NSC score for each, the source of contamination, etc.
- Completed ESSIMS Input Data Sheet.

4.0 PHASE III ENVIRONMENTAL SITE ASSESSMENT

Generally, the purpose of the Phase III ESA is to extend the confirmation of contamination in the Phase II ESA by fully delineating the extent of contamination through additional subsurface investigations (i.e. boreholes, test pits, monitoring wells, laboratory and field testing). In particular, the assessment will determine the following:

i. SOILS:

- depth and lateral extent of soil contamination;
- concentrations, types, and sources of contaminants;
- extent and concentrations of surface and subsurface vapours; and
- presence of free phase contaminants in soil.

ii. GROUNDWATER:

- principal direction of groundwater flow and rate;
- presence and extent of free phase contaminants in groundwater;
- concentrations and extent of dissolved contaminants in groundwater; and
- quantity (i.e. recharge rates).

iii. SURFACE WATER:

- concentrations, types, and sources free phase contaminants in surface water;
- concentrations, types, and sources of contaminants of dissolved contaminants in surface water;
- concentrations, types, and sources free phase contaminants in sediments;
- concentrations, types, and sources of contaminants of dissolved contaminants in sediments; and
- volume of impacted area.

In accordance with “Appendix D: Statement of Work for a Detailed Testing Program”, in “A Federal

Approach to Contaminated Sites” (see steps 5 and 6; available at http://www.ec.gc.ca/etad/csmwg/pdf/fed_aprch_e.pdf), the Consultant will carry out the following work, subject to site-specific environmental issues or other factors:

- a) Design a field sampling and analytical program to further characterize or delineate contaminated areas identified by the initial testing program (see Phase II ESA). The program should meet the field and analytical requirements of the Phase II ESA (see Section 3.0 a) as well as extend it in order to delineate the extent of contamination. The program should be provide sufficient information to:
- determine the contaminant concentrations in surface water runoff areas in the immediate vicinity of the site;
 - determine background levels of possible contaminants, as well as the natural composition of the soil and groundwater;
 - establish the subsurface geology of the site, including the nature, thickness, heterogeneity, lateral extent and continuity of surficial deposits, depth to bedrock, changes in soil stratigraphy, and the presence of underground anomalies;
 - incorporate all pertinent biases of the site which may include, but are not limited to the following: preferential pathways of contaminant migration; source areas; stained areas; other site specific “clues” (e.g. fractures in clays); changes in soil characteristics (e.g. sand/clay interfaces and peat); soil types; permafrost; and other pertinent characteristics or local conditions (e.g. organic matter, peat and septage);
 - establish the physical and chemical properties of the soil; sufficient samples should be taken from each stratigraphic unit affected by the contamination to determine the following: effective grain size; soil porosity; soil density; organic carbon content; soil pH; moisture content; microbial density; and chemical characteristics of the soil in terms of electron acceptors, nutrients, and metal content (i.e.: SO₄, CO₂, total N₂, NO₂, NO₃, P, K, Fe⁺², Fe⁺³, Mn, Zn, and Cu concentrations);
 - establish the hydrogeology of the site including the depth to the water table, local hydraulic gradient, soil permeability (e.g. slug tests), and the groundwater flow direction;
 - establish the chemical composition of the groundwater;
 - characterize the subsurface contamination by taking soil and groundwater samples at an appropriate number of locations to determine the type, form, concentrations, and horizontal and vertical extent of contamination; volumes of contaminated media should be expressed in cubic meters;
 - determine the contaminant sources and the surface and subsurface routes (i.e. past, present and estimated future) for contaminant migration; retardation factors that may limit the rate of contaminant migration should also be identified;
 - revise the conceptual model of each contaminated site created during the Phase II ESA to reflect the environmental knowledge attained during the detailed testing program; and
 - determine if off-site contaminant migration is occurring, or if off-site migration is likely to occur in the absence of remedial action; where off-site migration is confirmed, notify the contract authority as soon as possible so that appropriate due diligence and notification of impacted parties (adjacent property owners, municipal agencies, provincial agencies, etc.) can be implemented.

b) **Hazard Assessment Investigation**

The field sampling and analytical program should also provide sufficient information to complete a quantitative Human Health Preliminary Quantitative Risk Assessment (PQRA) and Ecological Risk Evaluation (ERE) in the future, or other ecological and human health risk assessments if

required.

The requirements for the PQRA are outlined in a Health Canada document entitled “Guidance on Human Health Preliminary Quantitative Risk Assessment”. The assessment quantifies the risk to human and ecological receptors from the nature and extent of the identified site contamination by establishing a conceptual model which defines pathways of contaminant migration and potential receptors. The PQRA requires identification of standard exposure pathways, receptor characteristics, toxicological reference values and other parameters in order to quantitatively assess the potential chemical exposures and risks at federal contaminated sites.

The requirements for an ERE are outlined in the Environment Canada document titled “Ecological Risk Evaluation Framework for Federal Contaminated Sites, Guidance for ERE Level 1 (Custodial Department Input Section) Version 2.2, June 2006” This Ecological Risk Evaluation (ERE) Framework has been developed as a tool to enable objective, transparent analysis of ecological risks associated with individual federal contaminated sites to support priority ranking under the Federal Contaminated Sites Action Plan (FCSAP). The focus of this ERE Framework is on ecological issues only.

To meet the PQRA and ERE requirements, the field sampling and analytical program for the Phase III ESA should also:

- estimate the direction and rate of movement of any soil or groundwater contaminants, where applicable;
 - identify environmentally sensitive populations in the path of any moving contaminants;
 - estimate the time of arrival of any moving contaminant to a sensitive population;
 - obtain and analyze representative samples of single materials (e.g. fuel oil, gas) as well as individual chemical constituents (gas chromatography), where required;
 - obtain surface water and soil samples where there is a concern of potential contaminant exposure to target populations at the surface; and
 - obtain air samples where there is concern of potential contaminant exposure to target populations in contaminated air.
- c) After approval of the site investigation program by the INAC, complete the sampling and analytical program with consideration of the field investigation protocol summarized in Section 6.

All samples submitted for laboratory analysis must be submitted to a Canadian Association of Environmental Analytical Laboratories (CAEAL) accredited and certified laboratory.

- d) Prepare a report which will include but is not limited to:
- Description of the field investigation results, including a discussion of contaminated zones, the potential for contaminant migration, and effects of off-site contamination.
 - If the site requires remediation or risk management, the report shall provide recommendations on remedial/risk management measures based on known technology. Recommendations should include:
 - the type and capacity of equipment required;
 - the time required to complete the remediation and/or risk management measures;
 - the safety procedures to be practiced during implementation of the remediation/risk management measures; and
 - costs broken down by major activity.

- If the property does not require remediation or risk management of the site contaminants, the Consultant shall provide that conclusion in the report. The report shall make reference to the Directory of Federal Real Property number for the subject property, if applicable.
- In the event that contamination is discovered, the contaminated site(s) shall be classified using the most recent version of the CCME Nation Classification System (NCS) for Contaminated Sites (2008), which will help to prioritize the site for future investigations and/or risk management activities.
- In anticipation of potential issues surrounding stale dating of the Phase III ESA, the Consultant should give recommendations that would create criteria for possible future reassessment requirements of the site.
- A completed IIABL Record of Site Management and Closure form (see Appendix I) will be included as an appendix to the report if Phase III concludes that no further work is required on the site.
- In response to the IIABL Compliance Strategy Framework, the Consultant is required to state the number of people hired for this work, and of those people, how many were Aboriginal, Inuit or Metis.
- The Consultant is required to provide information on a site by site basis, including a breakdown of expenditures, the CCME NCS score for each, the source of contamination, etc. even if a number of sites are addressed on a project basis.
- Completed ESSIMS Input Data Sheet (Appendix III).

5.0 REMEDIAL ACTION PLAN/RISK MANAGEMENT PLAN

In conjunction with a Phase III ESA, the Consultant will develop a comprehensive, detailed remedial action plan/risk management plan (RAP/RMP) which evaluates remediation alternatives and recommends a preferred alternative that can be used by Wasagamack FN as a blueprint in future site redevelopment.

The Consultant should quantify the costs associated with the recommended remedial/risk management alternative to a Class “B” level (see Appendix II, Classes of Cost Estimate). In addition, the Consultant shall prepare an estimate of liability or contingent liability associated with the site.

The liability or contingent liability estimate shall include all necessary additional assessment activities to finalize the remediation design as well as the implementation cost for the RAP/RMP and any follow-up monitoring activities. If an alternate RAP/RMP option is identified for a more active, short-term approach, the liability cost shall also be identified for this option.

The liability or contingent liability estimate for the site will be developed by the Consultant based on the implementation cost for the preferred RAP/RMP broken down for each primary cost component. The estimate shall be of a Class “C” level (see Appendix “C”) and list all assumptions and limitations. The estimate must be completed in accordance with the TBS requirements for estimating liabilities as described in:

- a) Appendix “G” of Chapter 2-1 of the “Treasury Board Manual, Information and Administrative Management Component, Capital Plans, Projects and Procurement, 1994/07/08”; and
- b) TBS Policy on Accounting for Costs and Liabilities Related to Contaminated Sites.

The RAP/RMP may develop site-specific remedial objectives for the alternatives. Any land use restrictions, caveats related to the site development, or other impediments should be specified including identifying who is to be made aware of these restrictions and responsible for implementing them. If

follow-up sampling is required to verify that receptors are not being impacted, these requirements will be clearly identified. In cases where remedial works are necessary, the Consultant will identify the specific works required and how and when these works should be implemented (preliminary design stage with full descriptions of all cost components required for implementation and costs). If the risk management plan includes containment and isolation, the site-specific standards should be developed on this basis and they should be included in the calculations.

The RAP/RMP should include a remedial alternatives analysis and identify recommended actions necessary to reduce the quantified risk to acceptable levels for each type of media. In accordance with “A Federal Approach to Contaminated Sites” (see step 7; available at http://www.ec.gc.ca/etad/csmwg/pdf/fed_aprch_e.pdf), it should also:

- a) summarize data from previous site investigations;
- b) identify contaminants of concern;
- c) identify the media affected (i.e. soil, groundwater);
- d) identify, quantify, and characterize the materials that require remediation/risk management;
- e) summarize remedial options considered and the rationale for selection of the specific remedial/risk management option chosen (a combination of more than one remediation technology may be used where recommended due to site constraints);
- f) describe the selected remedial/risk management option in detail, including where applicable, extent of impact, estimated excavation limits and volumes, dewatering method, soil and water disposal, and source and type of backfill material;
- g) assess suitability of any existing landfarm for soil disposal including upgrade requirements and associated Class “C” upgrade costs;
- h) identify any potential impacts of remedial/risk management option on the First Nation and other affected communities;
- i) identify control measures to minimize air emissions, control surface water, and minimize the risk to worker health and safety;
- j) detail a contingency plan in the event that contaminants are released into the environment;
- k) identify the fate of residual contaminants;
- l) describe remedial verification, long-term monitoring and closure program (if applicable); and
- m) identify the chain of communications to ensure no inadvertent exposures occur during routine site maintenance and potential future redevelopment.

Examples of potential RAP/RMP alternatives are provided below. However, it is recognized and encouraged that the Consultant considers alternate remedial methods in its analysis.

- a) Risk Management Alternatives (with development of Site-Specific Remediation Criteria, if applicable):
 - no action/monitoring (i.e. natural attenuation); and
 - isolation, containment and control technologies.
- b) Ex Situ Treatment Technologies:
 - excavation and disposal;
 - ex situ bioremediation;
 - excavation and beneficial reuse;
 - thermal desorption;
 - soil washing; and
 - pump and treat (groundwater).

- c) In Situ Treatment Technologies:
- bioventing (in situ volatilization); and
 - in situ bioremediation (soil or groundwater).

Selection of the preferred RAP/RMP should consider various factors, including:

- a) effectiveness in meeting the selected cleanup criteria;
- b) applicability to site conditions;
- c) complexity;
- d) public acceptance;
- e) risk to human health and the environment;
- f) time frame;
- g) comparative cost;
- h) property ownership and/or interest type; and
- i) off-site contamination risk.

6.0 FIELD INVESTIGATION PROTOCOLS

6.1 Site Visits

The Consultant shall visit the site only when accompanied by a First Nation designate or with prior approval from Chief and Council.

A subsurface drilling plan should be submitted and utilized for implementation and scheduling of all drilling activities.

6.2 Drilling Methods

Advance boreholes to auger/drill refusal, or limit of contamination in order to define the extent and magnitude of the contaminant plume.

Log the soil stratigraphy of each borehole at regular intervals and changes in soil type.

Boreholes should be advanced with at a minimum, a standard 100 mm diameter mobile rig and a split spoon sampler (preferred) or solid stem auger. Equipment must be able to confirm refusal at bedrock. Tailings generated from drilling activities will be disposed of as per CSA Z769 Phase 11 ESA guidelines. In addition, all activities must conform to Manitoba Conservation's guidelines for "Environmental Site Investigations in Manitoba", May 2002.

6.3 Groundwater Monitoring Wells

Wells will be installed accordance with CSA Z769 Phase 11 ESA guidelines which will include consideration of lockable caps, proper hazard markings, bentonite collars, backfill, casings, etc.

Install ground water monitoring wells down-grade from identified plumes to assess migration, direction, and possible impacts to groundwater. At each proposed monitoring well location, chemical analysis for contaminants of concern will be completed and compared with CCME guidelines. Estimate the quantity of groundwater that would have to be treated or handled during remediation, if the excavation of the contaminated soil is to be the preferred remediation option.

6.4 Test Pit Methods

Log the soil stratigraphy of each test pit at regular intervals and changes in soil type.

Soil excavated from test pits will be disposed of as per CSA Z769 Phase 11 ESA guidelines. All excavated sites shall have appropriate markings and site security. Excavated test pits will be backfilled in a safe and appropriate manner.

6.5 Soil Sampling

Soil samples shall be taken at 0.75 m intervals or at each stratigraphic change (soil interface), from each borehole and where appropriate test pits, except as indicated for surface sampling requirements. In most cases, geophysical properties will be identified through carefully logging of the soil stratigraphy at regular intervals during drilling.

Characterize soil at a site by completing a minimum of two Atterberg Limits and one grain size analysis on representative samples for each site.

Where appropriate, obtain representative surface soil samples from within first 5 cm below grade. Complete chemical analysis of representative samples for contaminants at an accredited laboratory.

Split samples are to be used for all soil samples. Specifically, representative portions of each soil sample must be divided in half, with one half being retained for laboratory analysis and the other half used for vapour screening. Appropriate quality control and assurance of samples must be implemented to minimize the loss of volatile vapours. Sampling shall follow a grid sampling plan and include standard quality control procedures.

6.6 Field Screening

Field screen soil samples at regular intervals from each borehole and test pit (where appropriate) for hydrocarbon concentrations as described below.

Soil vapour surveys (i.e. photo ionization detector, HNU) are to be used in the field to identify “hot spots”, and serve as a screening tool to optimize the analyses of representative soil samples.

6.7 Laboratory Analysis

Soil samples which receive the highest field screening vapour readings must be submitted for laboratory analysis at an accredited facility. Lab analyses results shall be included in the assessment report.

The total number of samples submitted for lab analysis must be sufficient to fulfill necessary data requirements for mapping out contaminated soil and plumes at the site.

All samples submitted for laboratory analysis must be submitted to a Canadian Association of Environmental Analytical Laboratories (CAEAL) accredited and certified laboratory.

6.8 Mapping

Conduct a total station survey to tie in surrounding development, infrastructure and location of

each borehole/test pit. Information to be utilized to establish elevation based site plans. Include specific GPS reference points for site location and identification. Georeferencing locations to survey grade accuracy (not less than 3 cm horizontal and 5 cm vertical) using GPS instrumentation and providing the georeferenced locations in ESRI ArcGIS shape file format in UTM, NAD83 datum. Other georeferencing methods capable of achieving similar results are acceptable.

ANNEX “1” RECORD OF SITE MANAGEMENT AND CLOSURE FORM**Part 1: Administration**

Project Number	
Date	
Project Location	
Description of Project Activities and Scope	
Project Start Date	
Project End Date	

Part 2: List of Reports

The following reports pertaining to the property cited in Part 1 have been prepared:

Report Title	Author	Date

Part 3: Summary of Risk Management Plan

This Part is completed if a Risk Management Plan is in effect and the site is considered “Under Risk Management”.

- a) Describe the objectives of the Risk Management Plan employed at the property.

- b) List and describe the risk management control measures that are employed at the property.

- c) List any active or passive site monitoring that was completed at the property.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Risk Management Plan.

- e) The monitoring requirements were terminated based on the following criteria.

Part 4: Summary of Remediation Close-Out

This part is completed if a Remediation Action was completed on the property and site closure can be completed:

- a) Describe the objectives of the Remediation Plan employed at the property.

- b) Describe the results of the site verification testing that verify the effectiveness of the Remediation Plan.

--

Part 5: Property Status

Based on the work completed and the results of the Risk Management Plan or the Remediation Plan, the property cited in Part 1 is suitable for the following site land use(s):

a) For which use(s) is the site now suitable (please circle):

- | | | |
|--------------------------|---|---|
| 1. Agricultural | Y | N |
| 2. Residential/Parkland | Y | N |
| 3. Industrial/Commercial | Y | N |
| 4. Sensitive use | Y | N |

b) Is the groundwater on site used for potable or non-potable purposes? (please circle)

- | | | |
|----------------|---|---|
| 1. Potable | Y | N |
| 2. Non-potable | Y | N |

Part 6: Summary Statement of the Site Professional

The signature of the Site Professional indicates the fulfillment of all requirements.

Site Professional

Name (please print)	
Title	
Date	
Signature	

INAC Region/Band/Company

--

Signature of INAC Authority

--

Financial Close-Out (please circle)

Yes
No

APPENDIX “D”**CLASSES OF COST ESTIMATES****1.0 CLASS “A” ESTIMATE**

This is a detailed estimate based on quantity take-offs from final drawings and specifications. It is used to evaluate tenders or as a basis of cost control during day-labour construction.

2.0 CLASS “B” ESTIMATE

This estimate is prepared after site investigations and studies have been completed and the major system designed. It is based on a Project Brief and preliminary design. It is used for obtaining approvals, budgetary control and design cost control.

3.0 CLASS “C” ESTIMATE

This estimate, which is prepared with limited site information, is based on probable conditions affecting the project. It represents the summation of all identifiable project component costs. It is used for program planning, to establish a more specific definition of client needs and to obtain approval in principle.

4.0 CLASS “D” ESTIMATE

This is a preliminary estimate, which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client’s broad requirements. This overall cost estimate may be derived from lump sum or unit costs as identified in the construction cost manual for a similar project. It may be used to obtain approval in principle and for discussion purposes.

APPENDIX “E”

COST OF SERVICES FORM

Contact for Further Information: Derek Pena
Phone Number: (204) 983-4315
Fax Number: (204) 983-1626

Location of Work: Wasagamack First Nation

Description of Work: Consulting Services for the Wasagamack Bulk Fuel Tank Contamination Site

BASIC SERVICES

1. Fees	\$
2. Disbursements	\$
3. Cash Allowance - Additional Field Investigations	\$ 10,000
TOTAL COSTS (Fees, Disbursements, And Cash Allowance)	\$

Name and Address of Firm	
Phone No.:	Fax No.:
Signature of Consultant	
Position of Consultant	

APPENDIX “F”

PROPOSAL EVALUATION CRITERIA INFORMATION

SUBMISSION REQUIREMENTS AND EVALUATION DETAILS

1.0 PROPOSAL EVALUATION

Proposals will be evaluated based solely on the merits of the written submission and its compliance with these Terms of Reference. Section 2 provides more detail regarding the evaluation criteria and proposal requirements (i.e. what we are looking for and information to be supplied).

Each proposal is first assessed for compliance with the following mandatory requirements as outlined in Section 9.1.1 and below:

- a) Proof that:
 - the firm has a Certificate of Authorization issued by the Association of Professional Engineers and Geoscientists of Manitoba (APEGM), a condition of which is holding professional liability insurance;
 - the lead engineer assigned to the work is registered or licensed to practice engineering by the APEGM; and
 - the firm has professional liability insurance.
- b) Submission of a fixed price for the specified services in a separate cost envelope on the “Cost of Services Form” in Appendix “D”. The fixed price shall be broken down into the consultant’s fees and disbursements for the specified duties and include a \$20,000 cash allowance for additional field investigations, if required.
- c) Listing of three references from three different organizations for which the Consultant has performed similar work. The reference listing information must include the contact name, current telephone number and facsimile numbers, and a short description of the individual’s role in the project.

Failure to provide any of these may result in rejection of the proposal and its return with “Cost of Services Form” unopened. At the discretion of the Project Team, the consultant may be given an additional 24 hours to provide proof of any mandatory requirement. However, the consultant must have had the requirement at the closing time for proposal submissions and inadvertently forgot to supply it with the proposal.

Proposals meeting the mandatory requirements are then assessed by a group of 4 evaluation team members consisting of two representatives from OCN, the PWGSC for INAC Project Manager, and the INAC Capital Service Officer. Evaluation is carried out using the following procedure:

- a) Each evaluator assesses each proposal separately for the technical criteria outlined in Table E1 (i.e. Firm, Project Team, Methodology, Proposal, and Schedule). The evaluator uses a proposal evaluation sheet as shown in Table E2 to assign a score from 0 to 10 for each criterion based on the evaluation criteria information in Section 2.0 and the

following guidance:

- 10 - proposal offers all that Project Team requires;
 - 7 - most of the important elements are provided, acceptable;
 - 4 - some of the important elements are provided, unacceptable; and
 - 0 - the element is essentially not met.
- b) All evaluators meet and reach a common agreement (i.e. consensus) on the score for each technical criterion of each proposal. The mark for each criterion of each proposal is then determined by multiplying the consensus score by the criterion weight. The Total Technical Mark for each proposal is calculated by adding the marks for each technical criterion.
- c) The cost envelopes are opened for all proposals attaining 70 percent or more of the maximum 85 technical points (i.e. $0.7 \times 85 = 59.5$). Where the Consultant does not score a minimum of 70 percent in the technical evaluation portion, the cost portion envelope will be returned unopened along with the Consultant's proposal.
- d) The Cost of Services points are awarded to those proposals whose total costs fall within a window of +/- 25% of the average total cost of all Consultants with a 70% or greater technical score. Proposals that fall outside the window will receive 0 points. Those proposals that fall within the window will receive points as follows:
- lowest total cost proposal receives 15 points; and
 - remaining proposals receive points based on a prorated linear scale with the low total cost at 15 points and 150% of the low total cost at 0 points (proposals whose total cost exceed 150% of the low bid will receive 0 points).
- e) If the total costs of all proposals with a 70% or greater technical score fall outside of the window created by taking +/- 25 % of the average total costs, cost points shall be awarded as follows:
- proposals will be sorted from lowest to highest total cost; and
 - the lowest total cost receives 15 points, the second lowest 12, the third lowest 9 , and so-forth until 0 points for the sixth lowest.
- f) The terms of the contract will be negotiated with the Design Consultant with the highest total points. Should negotiations breakdown, the Design Consultant with the second highest total points will be contacted. This procedure will be continued until a contract is finalized.

2.0 EVALUATION CRITERIA INFORMATION

(Submission Requirements and Evaluation Criteria Details)

2.1 Understanding of Project

(What do you understand to be the project needs and objectives of the commission?)

What we are looking for:

- a) A demonstration that the Design Consultant understands the goals of the Project, the functional/technical requirements, the constraints and the issues that will shape the end product, the selection of resources and the way the services are to be delivered.

Information to be supplied:

- a) Description of the specific project goals and requirements which highlights those of particular significance to the Project and the delivery of services, such as:
- the client's functional and technical requirements;
 - the client's philosophies and values;
 - the existing conditions;
 - implementation strategies;
 - other significant issues (e.g. environmental, heritage, cultural, and socio economic); and
 - challenges and restraints.
- b) Description of the approach to the major issues to be dealt with, such as:
- objectives to be reached.

2.2 Scope of Services, Work Plan and Schedule *(What do you propose to do?)*

What we are looking for:

- a) completeness of services offered to meet the goals and objectives;
- b) a plan of action that demonstrates how the services will be delivered; and
- c) a schedule.

Information to be supplied:

- a) Scope of services:
- detailed list of services flowing from understanding the Project and the Terms of Reference.
- b) Description of the deliverables which will contribute to the project objective:
- include those requested in the Terms of Reference and others that will be produced during the work (e.g. investigations, studies, reports, estimates, schedules, built-work, manuals, and services during construction).
- c) An outline of an action plan to deliver the services:
- implementation strategy (e.g. approvals, contracting, phasing);
 - sequence of main activities;
 - deliverables (e.g. reports, detailed schedule, estimates, design, plans and specifications manuals, and warranty inspection reports);
 - client (e.g. Little Grand Rapids First Nation, INAC) inputs; and
 - work breakdown structure (WBS) chart with description of services.
(note: the WBS could be the technique that firms choose to respond to this

section).

- d) A schedule for the services and the major inputs/approvals by others, from contract award through to completion of all services.
- e) Description of how public input to the heritage aspects of the contract will be solicited and taken into consideration.

2.3 Management Of Services

(How do you propose to perform the services and the meet the constraints?)

What we are looking for:

- a) How the Design Consultant's team will be organized and how the team fits in the context of the existing structure(s) of the firm(s)?
- b) What methods will be followed in performing the services?
- c) How will the strategies be managed?

Information to be supplied:

- a) Management and organization:
 - roles of key groups (i.e. First Nation, INAC, third parties, Design Consultant's team of staff, and sub-consultants, specialists);
 - organization chart with role titles and names;
 - reporting relationships; and
 - profiles of the key positions.
- b) Description of Services - Methodologies (management procedures)
 - program/requirement analysis and definition process;
 - design methodology;
 - quality control of the service in each phase of the Project;
 - construction stage services (e.g. inspection, quality control, manuals, deficiency clean-up, and warranty inspections);
 - cost planning and control process; and
 - scheduling methodology and time control process.

2.4 Design Consultant's Team

(Who is going to do the work?)

What we are looking for:

- a) The capability and the capacity of the team to provide the quality of services described in the earlier sections:
 - completeness of the team (i.e. roles and specialties covered off);
 - sufficient technical resources (e.g. CADD and working facilities);
 - commitment to provide qualified resources to the Project;

- qualifications/experience of the designated individuals;
- sufficient resources to meet the time frames in the work plan; and
- commitment to provide back-up if the proposed resources are not available.

Information to be supplied:

- a) Detail about the human and technical resources which the Design Consultant will dedicate to the Project:
 - names and qualifications of people nominated for the major activities in the work breakdown structure and for functions shown on the organization chart;
 - percentage of time that key individuals will spend on the Project;
 - names of the back-up people;
 - location where the work will be undertaken (if more than one office in firm); and
 - details about nominated and back-up resources.
- b) Experience of the key resources on comparable projects including:
 - the names of firms worked for and position in firms;
 - the scope of involvement of the firm and the key individuals on the listed project; and
 - references.
- c) Date of professional registration or technical certification/graduation and years of experience:
 - length of time with the present firm.

2.5 **Qualifications And Experience Of Firm(s)** (Tell us who you are.)

What we are looking for:

- a) Size of firm, depth of experience of firm on various project types, and design success (e.g. prizes and commendations).
- b) Experience on similar projects.
- c) Range of experience that can be drawn on from other individuals in the firm.
- d) Depth of the firm's resources and capacity to provide additional resources, if and when required.

Information to be supplied:

- a) A selected list and brief description of the projects completed in the recent past (up to 5 years) by the firm and major sub-consultants to indicate the range and depth of the firm's practice. If a project was undertaken by a consortium, identify other firms in the consortium, the role of the firm on the project, the stages completed, and construction value.
- b) A selected list and brief description of recent relevant studies.
- c) A general breakdown of the total staff of the Design Consultant and major sub-consultants (classifications and numbers).

Table E1 Proposal Evaluation Criteria and Points

Evaluation Criteria Type	Criteria	Wt.	Score (0-10)	Maximum Mark	Description
Technical	Firm	2.5		25	Experience, registration, and satisfactory performance on similar completed projects (First Nation, government and private sector). The references provided may be contacted. Responsible officers of government funded projects will also be contacted when such projects are referenced.
	Project Team	2.5		25	The number, qualifications and relevant experience of personnel to be assigned to the proposed team.
	Methodology	1.5		15	The methodology proposed for the performance of the work in accordance with Terms of Reference. This includes the Consultant's management section and proposed skills transfer to the First Nation.
	Proposal	1.0		10	The depth and detail of the proposal which indicates an understanding of the scope, size and complexity of the project.
	Schedule	1.0		10	The proposed schedule for the work, management of the work, delegation of responsibility, work plans, schedule and cost control, reporting and quality control.
	Total Technical Mark			85	
Cost	Cost of Services	1.5		15	The Consultant's fee proposal as submitted on the Cost of Services Form.
Total Mark				100	

Table E2 Proposal Evaluation Rating Sheet

Firm:	Team Member:	Date:
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Criteria	Wt.	Score (0-10)	Mark	Comments/Notes
<u>Firm:</u> Experience and satisfactory performance on similar work in the same subject area (First Nation, government and private sector).	2.5			
<u>Project Team:</u> The number, qualifications and relevant experience of personnel to be assigned to the proposed team.	2.5			
<u>Proposal:</u> The depth and detail of the proposal which indicates an understanding of the size, complexity and time constraints of the work.	1.0			
<u>Schedule:</u> The proposed schedule for the work. Management of the work, delegation of responsibility, work plans, schedule and cost control, reporting and quality control.	1.0			
<u>Methodology:</u> The methodology proposed for the performance of the work in accordance with TOR.	1.5			
Total Technical Mark				
Cost Of Services	1.5			
Total Mark				
<u>Score Guidance</u> 10 Proposal offers all that Project Team requires. 7 Most of the important elements are provided, acceptable. 4 Some of the important elements are provided, unacceptable. 0 The element is essentially not met.				