

HALIFAX

P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 17.1
Halifax Regional Council
June 20, 2017

TO: Mayor Savage and Members of Halifax Regional Council

Original Signed by 

SUBMITTED BY:

Jacques Dubé, Chief Administrative Officer

DATE: June 2, 2017

SUBJECT: Award – Request for Proposal 17-037, Lidar Data Acquisition

ORIGIN

2016-17 Approved Planning and Development Business Plan – Regional Planning Deliverables, Healthy Communities, Watershed / Water Quality Program Work Plan Development.

2017-18 Approved Advanced Capital Budget

Item 14.1.7 of the February 7, 2017 meeting of Halifax Regional Council:

MOVED by Councillor Nicoll, seconded by Councillor Cleary

THAT Halifax Regional Council:

1. Suspend the terms of Reference of the Audit and Finance Standing Committee requiring the Committee to review and make a report and recommendation to Regional Council; and
2. Approve advanced funding for the Project CI000020 – LiDAR Data Acquisition in the amount of \$2,400,000, as per the financial implication section of the staff report dated January 10, 2017.

MOTION PUT AND PASSED

LEGISLATIVE AUTHORITY

Subsection 16(1) of Administrative Order 58 Respecting the Delegation of Certain Authorities provides that revenue agreements exceeding \$500,000 are to be approved by Council and signed by the Mayor and Clerk.

Under the HRM Charter, Section 79 Halifax Regional Council may expend money for municipal purposes.

The recommended contract award complies with all of the pre-requisites for awarding contracts as set out in section 34 of Administrative Order 2016-005-ADM, the *Procurement Administrative Order*.

Section 36 of the *Procurement Administrative Order*, provides that Halifax Regional Council may approve contract awards of any amount.

RECOMMENDATION

It is recommended that Halifax Regional Council:

- 1) Authorize the Mayor & Clerk to enter into a funding agreement with the Province of Nova Scotia on terms acceptable to the CAO, to receive up to 50% of eligible project costs to a maximum of \$1,247,430, for the Coastal and Inland Flood Mapping (LiDAR) Acquisition project.
- 2) Subject to execution of the funding agreement, award RFP 17-037, Lidar Data Acquisition, to the highest scoring proponent, Geomatics Data Solutions, for a total cost of \$1,614,291, net HST included, with funding from Project CI000020 as outlined in the Financial Implications section of this report.

BACKGROUND

The LiDAR Project

This project follows the direction of policy E-25 of HRM's 2014 Regional Municipal Planning Strategy (RMPS). The Policy states: "The recommendations of the Climate Change Risk Management Strategy for Halifax Regional Municipality, approved in principle by HRM in 2008, shall provide guidance for corporate priority actions to manage the risks associated with climate change". It calls for the acquisition of LiDAR data coverage for the entire municipality; the outcome of this project.

The Municipality has been approved for funding through the Government of Canada's National Disaster Mitigation Program (NDMP). This program provides 50% federal cost-sharing for the total project value with financing administered through the Province of Nova Scotia, Emergency Management Office. The funding agreement between HRM and Nova Scotia has not been signed to date. The project timeline is very sensitive and significant delays could render the contractor unable to complete the project on schedule.

The overall project consists of three parts which will be conducted in consecutive phases with a projected completion date of spring 2019. LiDAR data will be collected in Part 1 of the project, followed by data processing, Part 2, which will include a Digital Elevation Model (DEM) for the entire land mass and coastal areas of HRM. In Part 3, HRM staff will develop coastal flooding vulnerability maps. These maps will enable the prioritization and risk planning and response for communities and assets facing the highest risk of coastal flooding. The maps will also help HRM's Emergency Management Organization (EMO) and its Joint Emergency Management (JEM) teams to identify HRM communities vulnerable to the impacts of coastal flooding. The award of the contract in this report will initiate and advance Part 1 of the LiDAR project, data collection.

Data Collection Requirements

The Municipality's project requires the collection of LiDAR data during "leaf-off" conditions, to maximize data use for municipal purposes, including but not limited to a broad range of land-use planning applications, emergency management planning, floodplain and detailed watercourse mapping, open space assessment and land management, infrastructure planning, and solar energy site suitability assessments. The Province of Nova Scotia plans to collect LiDAR data over the Halifax Regional Municipality land mass in fiscal 18/19. Their plans include data processing and developing their own digital elevation model. The opportunity for HRM and the Province to share data is positive however, the planned data collection by the Province in 18/19 will be performed during "leaf-on" conditions, as per Department of Natural Resources requirements for forest inventory management purposes, which will not effectively meet HRM's planning needs. Following extensive expert consultation and study, staff is confident that LiDAR data captured during "leaf-off" conditions is required. The alternative, "leaf-on" data collection, will significantly limit its utility for municipal purposes, particularly in urban and suburban areas dominated by deciduous forests, and in riparian areas along watercourses throughout HRM.

Natural Resources Canada is currently developing a national LiDAR standard that, once finalized, will help to harmonize data quality standards across Canada. Staff understands that the draft LiDAR standard recommends “leaf-off” collection conditions, at least in part, to enable the development of high-quality DEM products across the country. Given the federal NDMP funding that supports the present project, and the opportunity to align with a forthcoming national standard, staff strongly recommend the Municipality’s current approach.

The Canadian Hydrographic Service (CHS) has collected coastal LiDAR data for much of the Nova Scotia and HRM coastline in support of its mandate to maintain nautical charts and bathymetric maps. Unfortunately, their data acquisition is currently incomplete and the quality of the data already collected in some areas remains uncertain. Further, the Municipality has been unable to negotiate practical access to that data. For these reasons, staff is confident that the Municipality’s interests are best served by collecting its own data with minimum data standards that we can reliably use to meet our needs in a timely manner.

The timely award of this contract is critical to initiate coastal data collection during early summer and inland data collection in October. Delays in contract award will jeopardize data acquisition and may result in project termination. Conditional award will allow the project to proceed, as soon as the funding agreement is signed.

DISCUSSION

RFP 17-037: Lidar Data Acquisition was publicly advertised on the Nova Scotia Public Tenders web portal on May 2, 2017 and closed on May 19, 2017. Two proposals were received from the following vendors:

- Geomatics Data Solutions
- Leading Edge Geomatics

Proposals were evaluated by a committee comprised of two staff members from Energy & Environment and one employee of the Province of Nova Scotia (NS Geomatics Centre). The process was facilitated by HRM Procurement per the criteria set out in Appendix A – Evaluation Criteria.

The RFP was scored using a two-envelope process. Envelope one was the technical component of the RFP and envelope two consisted of the financial elements of the proposals. All proponents met the technical requirements and all cost proposals were opened. Detailed scoring results for the proponents as shown in Appendix A – RFP Evaluation Criteria, are summarized as follows:

- | | |
|----------------------------|-------|
| • Geomatics Data Solutions | 85.75 |
| • Leading Edge Geomatics | 75.04 |

The general scope of work includes flying data acquisition missions over coastal and inland areas of the entire municipality, collecting land-based reference data, calibration, data processing, quality control, rework as required, and reporting. Data collection will include the municipality’s entire land mass, including offshore islands other than Sable Island, nearshore coastal areas sufficient to enable coastal flooding vulnerability assessment, and aerial photography of the coastal areas. Not included are portions of transboundary secondary watersheds lying beyond the municipality’s boundary or bathymetric data for lakes near the urban core.

FINANCIAL IMPLICATIONS

The cost of the highest scoring proponent’s bid is \$1,547,946 plus net HST of \$66,345, for a total of \$1,614,291. The cost to award this RFP can be accommodated within project account CI00020. This project was previously approved for funding from the Advanced Capital Budget and has an available balance of \$2,400,000. Budget capacity has been confirmed by Finance.

Budget Summary:	<u>Project Account No. CI000020</u>	
	Cumulative Unspent Budget	\$2,400,000
	Less: RFP No. 17-037	<u>\$1,614,291</u>
	Balance	\$ 785,709

The balance of funds following Part 1, data collection, will be used to complete Parts 2 and 3 of the project, data processing and coastal flood mapping.

Funding through the National Disaster Mitigation Program (NDMP) will provide up to, but not more than, 50% of all eligible project costs, to a maximum value of \$1,247,430, from Public Safety Canada (PSC). The Municipality's final share of project expenses, including both cash and in-kind contributions, is planned to match that of PSC, \$1,247,430.

However, a formal funding agreement is not yet in place for this project and terms of the NDMP funding do not allow the Municipality to make any significant project expenditures prior to the agreement being signed by all parties. Given the reduced summer schedule for Regional Council and the short summer and fall timelines for the work to be carried out, staff are recommending the LiDAR Data Acquisition contract be approved now, subject to execution of the funding agreement.

RISK CONSIDERATION

It is recommended that Council award the Lidar data acquisition tender to Geomatics Data Solutions and proceed with Part 1 of the project. This will provide the Municipality with high quality data in support of a wide range of municipal purposes, for a reduced cost due to cost-sharing with Public Safety Canada.

Alternatives include sharing data and data products from the Province of Nova Scotia in 2018/19 or beyond and coastal data products from the Canadian Hydrographic Service. Based on the benefits of the targeted technical approach and rationale outlined in this report, this is not recommended due to the uncertainty of timelines and the limitations on data usability for specific municipal purposes. Further, the pursuit of these alternatives would negate the current federal funding agreement, potentially placing the Municipality at a disadvantage in acquiring similar funds in the future. Federal funding through the NDMP concludes in 2020 and will not be available to support any additional data collection or processing beyond that year.

COMMUNITY ENGAGEMENT

There was no community engagement undertaken for this report.

ENVIRONMENTAL IMPLICATIONS

This report has no direct environmental implications. Deliverables received from this contract will provide staff with updated digital elevation data that will serve as the basis for current and high resolution DEMs and other data products that will benefit municipal planning, development, construction, operations, and other business practices. By awarding this contract HRM will be taking significant steps towards achieving several environmental sustainability objectives and climate change action priorities.

ALTERNATIVES

Council could reject staff's recommendation to award the contract to Geomatics Data Solutions. This is not recommended for reasons provided in the body of the report.

ATTACHMENTS

Attachment A – Evaluation Criteria for RFP 17-037 Lidar Data Acquisition

A copy of this report can be obtained online at <http://www.halifax.ca> or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

Report Prepared by: Cameron Deacoff, Environmental Performance Officer, 902.490.1926

Report Approved by: Original Signed
Holly Richardson, Acting Program Manager Energy & Environment, 902.490.3665

Procurement Review: Original Signed
Jane Pryor, Manager, Procurement, 902.490-4200

Report Approved by: Original Signed
Bob Bjerke, Chief Planner and Director, Planning and Development, 902.490.1627

June 12, 2017

Mr. Cameron Deacoff
Environmental Performance Officer
Planning & Development
Halifax Regional Municipality
PO Box 1749
Halifax, NS B3J 3A5

Reference: Public Safety Canada (PSC) National Disaster Mitigation Program (NDMP) Funding Approval HRM Coastal & Inland Flood Mapping (LiDAR Acquisition)

Dear Mr. Deacoff:

The attached letter from Public Safety Canada, Director General Bobby Matheson outlines the approval for Fiscal Year 2016-2017 Project Proposals. Annex A to the attached letter, indicates the approval for the maximum Federal Contribution of \$1,247,430 for the Coastal and Inland Flood Mapping (LiDAR) Acquisition project that was submitted by Halifax Regional Municipality for Fiscal Year 2016-2017.

I look forward to the continued collaboration on this NDMP project as it moves forward and as the as the NDMP Project Manager for the Emergency Management Office of Nova Scotia. My contact information is 902-219-2562 or Aubrie.McGibbon@novascotia.ca.

Sincerely,

Original Signed
Aubrie McGibbon
Manager Business Integration

Attachment: 1



Public Safety Sécurité publique
Canada Canada

Ottawa, Canada
K1A 0P8

OCT 27 2016

Mr. Paul MacNeil
Executive Director
Emergency Management Organization
33 Acadia Street
Dartmouth, Nova Scotia B3J 3N5

Dear Mr. MacNeil:

In April 2015, the Government of Canada launched the National Disaster Mitigation Program (NDMP) with funding of \$200 million over 5 years starting in 2015-2016. The NDMP addresses rising flood risks and costs, and builds the foundation for future information mitigation investments that could reduce, or even negate the effects of flood events.

The submission period for the 2016-2017 cycle closed in June of 2016, and the approval process for the 2016-2017 cycle is now complete. A list of your project proposals and the related decisions is enclosed at Annex A.

Under the Terms and Conditions of the Program, provinces and territories have the option of requesting pre-execution expenditures for approved NDMP projects. Pre-execution expenditures are costs incurred by a recipient, under exceptional circumstances, prior to the final signature date of an agreement by all parties. A request to Public Safety Canada (PS) for pre-execution expenditures for approved NDMP projects may be considered on an exceptional basis, such as if the delays have caused the potential loss of critical project resources, or that the viability of the project will be jeopardized if the expenditures are not incurred prior to the signature of the contribution agreement.

If Nova Scotia is seeking pre-execution expenditures with respect to the approved projects noted in Annex A, it must send a formal request in writing, including a justification(s) and a detailed budget(s), to PS. Pre-execution expenditures for each approved NDMP project:

- a) Must meet the eligibility requirements as per the NDMP's terms and conditions;
- b) Must not pre-date the project approval date;
- c) Must not exceed three (3) months before the start of the contribution agreement;
- d) Must not exceed 25% or \$100,000, whichever is less, of the total PS budget for the first fiscal year; and
- e) Only apply to the first year of the project.

Additional information regarding pre-execution expenditures can be found at Annex B.

PS will provide you with the draft contribution agreement shortly. The PS Regional Office will work closely with you in completing the Contribution Agreement.

Thank you for your participation in the NDMP.

Sincerely,

Original Signed

**Bobby Matheson
Director General
Emergency Management Programs Directorate
Public Safety Canada**

**c.c.: Ms. Elizabeth Gooding
Director, Atlantic Region**

Enclosures: (2)

Annex A

**National Disaster Mitigation Program (NDMP)
Fiscal Year 2016-2017 Project Proposals
/
Programme national d'atténuation des catastrophes (PNAC)
Demandes de projets pour l'année financière 2016-2017**

NDMP Decisions / Décisions PNAC

Province of Nova Scotia

Project Title / Titre du projet	Approved as Submitted / Approuvé tel que soumis	Approved with Modifications / Approuvé avec modifications	Not Approved / Pas approuvé	Maximum Federal Contribution / Contribution fédérale maximale	Comments / Commentaires
Fundy Agricultural Marshland Flood Maps	✓			\$69,875	
HRM – Coastal & Inland Flood Mapping (LiDAR Acquisition)	✓			\$1,247,430	
Totals	2	0	0	\$1,317,305	

Annex B

Pre-Execution Expenditures

Eligible pre-execution expenditures are costs incurred by a recipient, under exceptional circumstances, prior to the final signature date of an agreement by all parties. Pre-execution expenditures must also meet the eligibility criteria as described in the Program's Terms and Conditions. Eligible exceptional circumstances are defined as facts that support that there would have been loss of a critical project resource or that the viability of the project would have been jeopardized if the expenditures have not been incurred prior to the signature of the agreement.

Conditions:

- Other than where exceptional circumstances are found to be present, Public Safety Canada (PS) will not consider the reimbursement of any eligible expenditure incurred by the Recipient prior to the date at which the formal agreement was signed by both parties.
- PS does not, directly or indirectly, agree to, endorse or support in any way the Recipient's decision to proceed with eligible expenditures prior to the signature of the agreement.
- Any eligible expenditure made prior to the signature of the agreement is at the Recipient's own risk.
- Eligible expenditures made by the Recipient prior to the signature of the agreement will be considered for reimbursement by PS only if the facts surrounding these eligible expenses meet the definition of exceptional circumstances.
- Eligible expenditures that the Recipient may choose to incur prior to the execution of the contribution agreement can only be for expenses identified by the Recipient in the Proposed Budget.
- If a Recipient has elected to incur eligible pre-execution expenditures for the project, the Recipient must provide PS with a written rationale setting out the facts upon which the Recipient relied to determine the exceptional circumstances requiring the expenditures to be incurred.
- Upon receipt of the written rationale, PS will determine if the pre-execution expenditures qualify as eligible expenditures and/or if the facts surrounding the need to incur the expenditures prior to the contribution agreement having been signed meet the definition of exceptional circumstances. Should PS determine that these pre-execution expenditures do not qualify as eligible expenditures and/or the facts do not support a finding of exceptional circumstances, the Recipient will not be reimbursed for the pre-execution expenditures being claimed.

Payment of Pre-Execution expenditures:

- The pre-execution expenditures may not exceed 25% or 100K, whichever is less, of the PS budget for the first fiscal year.
- The pre-execution expenditures **must not** exceed three (3) months before the start of the agreement.
- The pre-execution expenditures approved to be reimbursed must be paid from the budget in same year in which the agreement is signed.

- The pre-execution expenditures should be tracked in the cash flow statement as part of the total budget; comments related to the pre-execution expenditures should be included in the comments section.