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# Performance Audit of the Procurement Processes within Engineering Services

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October 31, 2019  
Final Report

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## **SUMMARY**

### **Objectives**

The objective of this audit was to assess the extent of regard for efficiency, effectiveness and economy within the purchasing processes of the Engineering Services Section.

### **Scope**

The scope of the audit includes activities from January 1, 2014 to December 31, 2018.

### **Background**

The Engineering Services Section of the Growth and Infrastructure Department delivers projects that maintain, renew and expand the City's Infrastructure systems including linear infrastructure and fixed infrastructure facilities. Linear infrastructure includes roads, storm-water management, water distribution and wastewater treatment systems. Fixed infrastructure facilities include water treatment and wastewater treatment plants.

Engineering Services conducts most of its own purchasing activities (i.e. Tenders, Requests for Proposal, Request for Qualifications and Pre-qualifications) with the assistance of purchasing staff who advertise their purchasing opportunities, open the bids and communicate the results of these initiatives.

### **Report Highlights**

This audit indicated that management had identified, assessed and mitigated relevant risks within its purchasing processes. Suggestions for improvement were provided to further mitigate significant risks to achieve greater economy and fairness within its purchasing processes.

### **Audit Standards**

We conducted our audit in accordance with Generally Accepted Government Auditing Standards (GAGAS). Those standards require that we adequately plan for the audit; properly supervise audit staff; obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions; and properly document each audit.

We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit. For further information regarding this report, please contact Ron Foster at extension 4402 or via email at [ron.foster@greatersudbury.ca](mailto:ron.foster@greatersudbury.ca)

## OBSERVATIONS AND ACTION PLANS

### Procurement Planning

Our analysis shown below of the largest tenders issued by Engineering Services over the last three years indicates that major tenders were only open for bidding 18 to 25 days. Better practice guidelines for procurement indicate that the number of bidders that respond to bidding opportunities is directly related to the length of the bidding period as well as other factors such as the number of firms in the area that provide the goods and services desired. Conversely, shortening the bidding period reduces the number of bidders, as does the number and value of similar bidding opportunities that are issued at the same time by the Ministry of Transportation and private sector.

Year	Value of All ENG Contracts (Million)	ENG Contracts Issued	Avg Value of Contract Issued	Value of ENG Contracts Tested (Million)	ENG Contracts Tested	Avg No. of Bids Received on Contracts Tested	Avg Value of Contracts Tested (Million)	Value Tested as % of Contract Value Issued	Avg No. Days in Bidding Period
2016	\$56.1	36	\$1.6	\$42.2	15	2.7	\$2.8	75%	25
2017	\$69.0	33	\$2.1	\$47.8	15	4.5	\$3.2	70%	23
2018	\$69.3	19	\$3.6	\$63.8	10	3	\$6.4	92%	19
<b>Avg</b>	<b>\$64.8</b>	<b>29</b>	<b>\$2.4</b>	<b>\$51.3</b>	<b>13</b>	<b>3.4</b>	<b>\$4.1</b>	<b>79%</b>	<b>22</b>

At the end of 2018, Engineering Services adopted the minimum timelines for advertising tenders that are required to meet new legislation. These new timelines and the launch of e-Tendering at the end of March should increase the number of bids received by the City and provide more economical prices for large projects.

### Recommendation

To maximize the number of bids on large projects, the legislated timelines should be considered minimum periods.

### Management's Response

*Engineering Services will continue to use the current minimum posting period (15 days) for simple, repeat procurements. We will consider longer posting periods where feasible and for complex projects which usually exceed CETA thresholds and will be required to be posted for a minimum of 25 days.*

*Engineering Services will also use other communication opportunities, such as the annual contractors meeting, to communicate to the construction industry the anticipated capital work for the upcoming construction season. This will provide contractors advance notice of tendering opportunities.*

*Engineering Services will also stagger tender close dates so that the tenders do not close on the same date as other projects of similar size/scope or other large projects in the industry (i.e. MTO)*

**eTendering**, which was implemented in March 2019, will create efficiencies in the bidding process (e.g. notifications, access to information, electronic submission). It is anticipated that eTendering will initially increase competition by providing access to CGS procurement opportunities to a larger vendor population through “bids & tenders”. The primary external uncontrollable risk that impacts our procurement process is the short construction season.

Once the capital budget is approved and bidding documents are prepared, a longer posting period exposes the City to the following consequences:

- Contractors are already engaged in other contracts (i.e. MTO, mining industry, etc.);
- Higher bid prices;
- Lower quality labour force;
- Increase in costs due to work extending into the fall/winter season; and
- Poor reputation if construction work is not completed on-time.

Engineering Services implemented eTendering for all relevant procurement opportunities as of March 2019.

### **Dispute Resolution Process**

Contractor evaluations and procurement awards are subject to judgment and fairness considerations. As a result, prequalification and award decisions are sometimes disputed. Lack of formality in the current dispute resolution processes could lead to inconsistent decisions and potential litigation.

### **Recommendation**

Dispute resolution processes should be formalized for each phase of the purchasing process to mitigate legal and reputational risks.

### **Management's Response**

The City's Purchasing By-Law includes a debriefing and complaint process (Section 32) for Tenders and RFP. The Canadian Free Trade Agreement requires a debriefing for pre-qualification processes in accordance with Article 516 (Transparency of Procurement Information Provided to Suppliers) which states:

*A procuring entity shall promptly inform participating suppliers of its contract award decisions, and, on the request of a supplier, shall do so in writing. Subject to Article 517, a procuring entity shall, on request, provide an unsuccessful supplier with an explanation of the reasons why the procuring entity did not select its tender. The following definitions apply:*

**tender** - means a submission from a supplier in response to a tender notice;

**tender notice** - means a notice published by a procuring entity inviting interested suppliers to submit a tender, a response to a request for prequalification, or both;

<https://www.cfta-alec.ca/canadian-free-trade-agreement/>

Purchasing Services has developed a new Request for Prequalification process that includes a debriefing and complaint process which is compliant with CFTA.

Engineering Services has adopted and implemented the new Request for Prequalification process. In addition, Engineering Services is using eTendering to conduct Requests for Pre-qualifications. Requests for pre-qualification are conducted by an authorized person (i.e. Purchasing Agent) in accordance with the Purchasing By-law.

## Appendix 1 – Summary of Significant Risks

Risk	Total No. of Risks	Risks Before Controls			Risks After Controls		
		High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)	High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)
Reputational	1	1	0	0	0	1	0
Operational	3	2	1	0	0	2	1
Financial	9	9	0	0	3	4	2
Legal	1	0	1	0	0	1	0
<b>TOTAL</b>	<b>14</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>3</b>

## Appendix 2 – Significant Risks

Risk	Risk Description	Before Controls	After Controls
F2	Lack of economical procurement	20	15
F1	Ineffective bidding process	20	15
F3	Lack of effective procurement	20	15
O1	Lack of sufficient engineering capacity	20	14
F4	Lack of effective dispute resolution mechanisms	20	14
R1	Reputational damage from unfair procurement processes	20	14
F6	Lack of effective Prequalification Process	16	10
O2	Lack of effective support from Purchasing Services	20	10
F5	Inconsistent bid evaluation process	20	10
F7	Lack of spending authority for PMs	16	10
O3	Ineffective document controls process	14	8
F8	Lack of efficient procurement	16	8
F9	Lack of effective Standing Offers	16	8
L1	Lack of compliance with procurement bylaw	15	7

### Appendix 3 – Project Management Processes

Project Management Processes*	Project Stage	Description	Key Components	Process Risks	Key Controls
Pre-Initiation Phase	Capital Prioritization Tool	Assessment of the practicality of the proposed project	Strengths, benefits, weaknesses, opportunities and threats; costs and resources requirements; prospects for success. Includes the Technical, Economic, Legal, Operational and Scheduling Feasibility	Overstated benefits and strengths; understated costs, resource requirements and constraints	Independent review of feasibility study by appropriate staff
Initiation Phase	Project Charter, Stakeholder Identification	Create a document that formally authorizes the project.	Develop high-level; project description, scope and boundaries, budget, schedule, assumptions, risks, constraints and success criteria	Unclear objectives, criteria, specifications, deadlines, or incomplete analysis	Participation by key staff to ensure completeness and accuracy, independent review and approval by Project Sponsor
Planning Phase	Project Management Plan	Bridge the gap between design conception and detailed design, elaborate each aspect of the project and plan procurement that addresses the timing and method of going to market	Develop detailed scope statement, milestone schedule, risk assessment, budget, quality standards, procurement plan, and communication plan,	Unclear or missing objectives, constraints, provisions or deadlines	Participation of appropriate staff to develop the appropriate plans; independent review by appropriate staff
	Detailed Design	Determine the criteria that the design must meet in order to fulfill the user requirements, prepare work packages which are	Comprehensive list of items and quantities, including corresponding detailed specifications. Preparation of tender	Insufficient detail in drawings and specifications	Participation of appropriate staff within the detailed design process; independent review and approval of detailed engineering

<b>Project Management Processes*</b>	<b>Project Stage</b>	<b>Description</b>	<b>Key Components</b>	<b>Process Risks</b>	<b>Key Controls</b>
		manageable and divisible components of work within the project scope	documents, may include detailed drawings		
	Documenting Specifications	Criteria that the design must meet in order to fulfill the user requirements	Functional specifications and construction specifications	Insufficient detail in drawings and specifications	Participation of appropriate staff within the preliminary design process; independent review and approval of preliminary design
	Work Packaging	Preparing engineering work packages that form construction work packages which divide components of work	Engineering work packages and construction work packages	Overly large or overly small work packaging	Management review of work packages with input from appropriate staff.
Executing Phase	Procurement Planning	Preparing a plan that addresses the timing and method of going to market	Identification of project scope and timing; method of procurement; plan for advising market and going to market; preparation of RFP or Tender documents and contract	Incomplete or inadequate procurement plans	Participation in procurement process by appropriate staff.
	Procurement	Go to the market for competitive bidding, allowing sufficient time for responses from bidders	RFP or Tender documents, prequalification evaluation, bid evaluation, preparation of legal contract documents and award of the contract	Late posting of RFP or Tender; inadequate time for responses; inconsistent evaluation of bids; inappropriate contract award of contract, incomplete or inadequate procurement plans	Significant coordination with appropriate staff during planning process; review and approval of plan by senior Engineering staff

<b>Project Management Processes*</b>	<b>Project Stage</b>	<b>Description</b>	<b>Key Components</b>	<b>Process Risks</b>	<b>Key Controls</b>
Monitoring and Controlling Phase	Contract Administration and Construction Management	Monitor and Control Construction Activities according to the contract documents	Ensure compliance with contract specifications and drawings. Manage budget, schedule, scope and change requests, risks and quality, throughout construction. Review and assess contractor claims for delay and changes	Failure to manage construction quality, schedule, cost and risks; failure to take appropriate holdbacks for deficiencies; failure to manage key deliverables within contract; failure to manage contractor claims for extras and delays	Participation in construction management and contract administration process by senior technical staff and Project Managers to ensure contract terms are met. Review and assessment of claims by Project Manager with input from staff from Sponsor and Senior Engineering Staff.
	Claims Management	Managing claims from contractor	Review and assessment of claims contractor claims for delay and changes	Failure to manage contractor claims for extras or delays	Review and assessment of claims by Project Manager with input from staff from engineering, finance and legal
Closing Phase	Post Construction and Warranty Period	Manage Substantial Completion and Completion Certificate, provide asset management updates, complete lessons learned. Review and assess the product through the warranty period for deficiencies under warranty. Manage warranty work if required. Issue Final Certificate	Testing of deliverables to ensure performance specifications are met prior to the end of the warranty period	Failure to perform sufficient and appropriate performance testing to ensure specifications are met	Review and assessment of warranty issues by Project Manager and Inspection Staff

\*For Project Management Processes, refer to Table 3-1, Page 61 of the PMBOK