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2018 OPERATING BUDGET BRIEFING NOTE

Costs Incurred for Engineering Services

Issue:

- At its meeting of December 12 to 18, 2017 (BU39.1), Budget Committee requested that the Chief Engineer and Executive Director, Engineering & Construction Services, provide a budget briefing note on:
 - a. the additional costs incurred by relying on outside contractors for engineering services due to a lack of internal staff capacity in 2017, and
 - b. possible strategies to address this issue in 2018 and beyond.
- This briefing note responds to both (a) and (b) above.

Background:

- Engineering & Construction Services (ECS) provides 3 services, namely, Municipal Infrastructure Construction; Engineering Review and Acceptance; and, Engineering Information.
- To deliver the Municipal Infrastructure Construction service, ECS relies on 3 design and construction Sections responsible for the delivery of capital projects on behalf of internal clients including Toronto Water, Transportation Services, Solid Waste Management Services, City Planning and Economic Development and Culture; and City agencies and external organizations, including the TTC and Business Improvement Areas (BIAs), respectively.
- The capital program assigned to ECS continues to escalate; for example, ECS delivered \$468 million in municipal infrastructure capital projects in 2015, \$491 million in municipal infrastructure capital projects in 2016, and is tracking delivery of over \$500 million in 2017.
- Delivery of the capital program assigned to ECS is characterized by frequent workload peaks. These demands are difficult to accommodate even at a full staff complement: attrition is contributing to the Division's relatively high vacancy rate, and the Division continues to experience difficulties in hiring skilled professional and technical staff due to the competitive market conditions within the construction industry in the Greater Toronto Area (GTA).

- This situation is exacerbated by a lack of salary competitiveness, which impedes recruitment and retention efforts.
 - Positions at other GTA municipalities pay salaries that are up to 17% higher than those offered by the City of Toronto for positions equivalent to those within ECS. A few examples are provided in the following:

Position	York Region	Halton Region	City of Vaughan	City of Brampton
Engineer / Project Manager	\$118k (2016) vs \$101k (City): 17%	\$110k (2017) vs \$102k (City): 8%	\$115k (2017) vs \$102k (City): 13%	\$108k (2017) vs \$102k (City): 6%
Senior Engineer / Senior PM	\$129k (2016) vs \$116k (City): 11%	\$125k (2017) vs \$118k (City): 6%	NA*	\$123k (2017) vs \$118k (City): 4%
Manager	\$145k (2017) vs \$127k (City): 14%	\$134k (2016) vs \$126k (City): 6%	\$131k (2017) vs \$127k (City): 3%	\$138k (2017) vs \$127k (City): 9%

*Not available.

Key Points:

A. Additional Costs Incurred by Relying on Outside Contractors for Engineering Services Due to a Lack of Internal Staff Capacity in 2017

- Through its Project Tracking Portal, ECS maintains a database of the costs associated with the capital program it is delivering. Over the period 2015 – 2017, the cost of project management to design and construct municipal infrastructure using in-house resources averaged 18.8%, on total capital program costs of \$452 million.
- In 2017, ECS relied on six contracts for program management services to supplement in-house resources for the design and construction of roads, sewers and watermains, in support of the capital programs of Toronto Water and Transportation Services:
 - Four of the contracts were for the provision of professional engineering services for coordinated Toronto Water and Transportation Services capital program management assignments for the period 2017 to 2020. Projects included within the coordinated capital program are required to keep municipal infrastructure in a state of good repair and include but are not limited to the reconstruction/ replacement of: sewers; watermains; roadways; laneways; sidewalks; and, streetscaping. The contracted services include provision of program management, data collection, preliminary design, detailed design, contract administration and on-site construction supervision and site inspection services, as well as post-construction services. The cost of the contracted services averages 13.6% on a combined capital program valued at up to \$220 million over the 2017 to 2020 period.
 - Two of the contracts were for the provision of professional engineering services for delivery of the 2017 Local Road Resurfacing program, which was transferred from Transportation Services to ECS through the 2017 Budget Process. The scope of work for these 2 assignments involved contract administration including construction inspection for an estimated 55 kilometres of local roads across the City. The cost of the contracted

professional services was \$2.9 million on a capital program of almost \$30.6 million, representing almost 9.5% of the program value.

B. Possible Strategies to Address this Issue in 2018 and Beyond

- ECS is relying on a number of options to best manage its resources in order to deliver the capital program the Division is assigned:
 - Request the addition of a limited number of positions to support capital delivery via the 2018 Budget Process;
 - In collaboration with Human Resources Division, complete the Council-mandated review of salaries for engineering positions; and,
 - Continue to use externally contracted professional services to supplement in-house capacity of engineering resources.

Add a limited number of positions to support capital delivery

- Annually, ECS critically evaluates the human resources needed to deliver the Municipal Infrastructure Construction service by assessing the number of staff and the mix of staff skills and expertise already within the Division against the assigned capital program.
- For example, as part of the 2017 Budget, Council approved the transfer of the Local Road Resurfacing function from Transportation Services to ECS, thereby addressing issues identified by the Auditor General in the report titled "Improving the Tendering Process for Paving Contracts", and at the same time approved 3 additional Engineer positions to enable ECS to deliver the function.
- Through the 2018 Budget Process, ECS is requesting additional resources to support delivery of the assigned capital program, including:
 - 2 Communication Coordinators: one in the Basement Flooding Protection Program Unit of the Linear Underground Infrastructure Section and one in the Local Roads Unit of the Transportation Infrastructure Section, fully funded from capital to manage the communications and issues management functions of capital projects with individuals, groups, organizations, and businesses, and to ensure timely response to enquiries about construction projects delivered by the Program, thereby freeing project management staff to focus on construction activities.
 - 3 Coordinator Outreach & Special Projects positions in the Public Consultation Unit to provide support as "field ambassadors" on municipal infrastructure capital projects during construction, by maintaining a presence in the field to handle day to day issues that are raised by residents, businesses and local Councillors.
- The above-noted positions provide the necessary expertise and resources to meet customer service expectations, and allow project management staff to focus on the technical aspects of capital delivery.
- ECS could retain the services of an external service provider for the Communication Coordinators and Coordinator Outreach & Special Projects, but would incur a premium by so doing. For example, ECS initiated the use of "field ambassadors" as a pilot project in 2009.

ECS is currently retaining such services on a number of projects through consulting assignments:

- The average rate paid for a "field ambassador" provided by an external service provider is \$116 per hour (\$2017).
- This contrasts with the position of Coordinator Outreach & Special Projects, which is rated as a wage grade 6.5 position, with a top hourly rate for the position in 2017 of approximately \$71 per hour (salaries and benefits included).
- Thus, the City is currently paying almost double what it would cost to have this service delivered by the City's own workforce. For this reason, as well as to exercise greater control and oversight, 3 full time equivalent positions are proposed, which will ultimately result in savings in the City's capital program.

Complete the Council-mandated review of engineering salaries

- Through the budget process for each of the past three years, ECS has identified the chronic challenges in recruiting top calibre talent in key business areas (e.g., engineers and managers who have the skills and abilities to undertake TTC track replacement, structure and bridge rehabilitation, and high profile programs).
- The challenges are exacerbated by the City's lack of salary competitiveness, which was a factor that contributed to the Division's inability to attract suitably qualified senior engineering professionals and managers in key service areas; in a number of instances, ECS had to issue multiple job calls in an attempt to fill the positions.
- The situation is further aggravated by the very competitive construction industry in the GTA, where municipalities, government agencies (e.g., Metrolinx and Infrastructure Ontario), engineering consultants and contractors are all vying for the same talent and expertise.
- Retention of ECS engineering managers and staff is also a challenge. During 2017, ECS lost a number of high performing senior engineers and engineering managers, many of whom accepted positions at other GTA municipalities for higher remuneration and in one case extra vacation entitlement.
- In most cases, these former ECS employees accepted positions that are less demanding in terms of project complexity, political and public scrutiny, and measured performance requirements.
- City Council is aware of the salary compensation issue facing ECS, and adopted a motion in 2014 directing "the Executive Director, Human Resources in collaboration with the Executive Director, Engineering and Construction Services; General Manager, Toronto Water; General Manager, Transportation Services; and the Chief Corporate Officer to undertake a review of salary compensation for professional engineer and project management professionals within GTA municipalities and within the private sector, and report to the Employee and Labour Relations Committee, in the first quarter of 2015, with recommendations to consider possible adjustments to current salary ranges for these types of positions, to ensure that salaries offered by the City of Toronto are not an impediment to recruitment and staff retention" (see 2014.EX43.29).

- As an interim measure, ECS has initiated discussions with Human Resources to implement a market rate adjustment for the Senior Engineer, Engineering Manager, and Director positions within the Division, as a short term, stop gap measure pending a meaningful review of the City's wage bands for these jobs.

Continue to use externally contracted professional services

- In order to meet capital delivery requirements, ECS has used and continues to use externally contracted professional services to supplement the capacity of internal engineering resources.
- The external contracted services supplement the capacity of in-house resources. The services procured in no way reduce the work performed by nor result in lay-off or loss of work for ECS employees.
- Soliciting and awarding engineering consultant professional services assignments and construction contracts for the purpose of delivering the capital program assigned to ECS is done in accordance with City by-laws, policies, and procedures.
 - All call documents are publicly advertised on the City's internet website in accordance with Chapter 195 of the City's Purchasing By-law.
 - Proposals are evaluated against predetermined qualifications and technical requirements.
 - Awards are made to the lowest bidder meeting the specifications or to the highest scoring proponent based on the evaluation criteria included in the call and meeting the requirements of the call.
 - For contracts with a dollar value less than \$20 million, or when Council is in recess, awards can be made by the City's Bid Award Panel. For assignments or contracts with a dollar value more than \$20 million, awards are made by the City's Standing Committee to which ECS reports, namely the Public Works and Infrastructure Committee. Contract numbers and vendor names are included in all awards.
 - Purchase orders are issued only after approval has been received from the appropriate Committee (Bid Award Panel or Public Works and Infrastructure Committee).
- The following table presents a comparison of City wages for a number of positions along with the costs to the City to procure the same positions through external service providers:

ECS Position	Wage Grade	City of Toronto				External Engineering Consultants**	
		Annual Wage		Hourly Rate*		Hourly Rate Charged to the City	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Engineer / Project Manager	6.5	\$86,795.80	\$101,974.60	\$60	\$71	\$85	\$160
Senior Engineer / Senior PM	7.5	\$100,773.40	\$118,393.60	\$70	\$82	\$110	\$175
Manager	8	\$108,222.40	\$127,171.20	\$75	\$88	\$115	\$215
Director	10	\$145,672.80	\$171,152.80	\$101	\$118	\$167	\$260

*Including benefits @ 26%.

**Based on information from engineering assignments active in 2017.

- The use of external contracted service providers gives ECS the flexibility to address workload peaks, enables the retention of specialist expertise that would otherwise not be available to deliver core services, and allows the appropriate apportionment of risk to ensure project quality, timeliness, and cost are prudently managed to ensure the City is receiving value for the dollars spent.

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Date: January 2, 2018