



Staff Report

Infrastructure and Public Works

Report To: Committee of the Whole
Meeting Date: May 22, 2019
Report Number: CSPW.19.043
Subject: Infrastructure Capital and Operational Program Delivery Models
Prepared by: Reg Russwurm, Director of Infrastructure and Public Works

A. Recommendations

THAT Council receive Staff Report CSPW.19.043 entitled "Infrastructure Capital and Operational Program Delivery Models";

AND THAT Council direct Staff to develop a business plan to create internal engineering capabilities as outlined in Staff Report CSPW.19.043;

AND THAT Council authorize Staff to utilize external engineering services for Infrastructure and Public Works Department projects within the 2019 Capital Budget with engineering fees identified, and direct Staff to require multi-year design and construction administration assignments to be flexible to enable the Town undertaking the contract administration phase of the assignment internally.

B. Overview

The purpose of this report is to review the models available to the Town to deliver capital and operational projects including considering the concept of developing internal engineering capabilities as requested by Council.

C. Background

Like many municipalities the size of the Town, the vast majority of consulting and engineering services are provided by external engineering consultant firms on a project by project basis. The Infrastructure and Public Works Department (IPW) is responsible for the majority of consulting and engineering assignments within the Town in both number and dollar value. For the purposes of this report consulting services are defined as assignments that result in the completion of various studies, needs assessments, municipal class environmental assessments (MCEA), preliminary design reports, etc. Engineering services occur following once consulting activities are completed and are further defined as design activities resulting in the preparation of construction documents and undertaking contract administration activities to complete construction monitoring and administration. Many consultants offer both consulting and engineering services and will be referred to collectively as engineering consultants.

With respect to the cost of these services, IPW uses “rule of thumb” factors listed below that are based on experience tempered by project specifics. The recent heavy construction activity across Ontario however has caused some projects to have fee structures above these factors.

Consulting Services

- 3% - 5% of expected construction cost of highest cost reasonable project or through an estimate of effort dependent on the range of study and preliminary design warranted for the project

Engineering Services

- Final Design: 6% - 9% of construction estimate based on project complexity
- Contract Administration: 6% of construction cost

After preparing for and completing several studies over the past few years, the Town is poised to enter a phase that will see increased construction activities.

Over the past five year period (2014 – 2018), the IPW operating and capital budget has included 37 new projects¹. Of those 12 have been completed and 25 are still underway. Six of the 25 have had no expenditures due to bids exceeding budget, staff resourcing and shifting priorities. The 37 projects had a combined budget of \$33.8M of which \$13.4M has been spent². Of the funding spent, \$0.67M was for consulting and \$1.92M for engineering.

Within IPW’s current five year projected operating and capital program, there are 48 new projects with a total cost of \$98.2M. This program contains \$3.0M in consulting and \$11.4M in engineering fees. To deliver this program, Council has approved the creation of two new dedicated capital project coordinator positions.

With the proposed increase in construction activities, the Town will incur significant costs for engineering consultants to deliver the capital program. For this reason, and that sustaining infrastructure assets over time will become an ever increasing priority for the Town, a review of the models IPW uses to deliver its operating and capital program is warranted.

The primary means by which the Town can deliver its capital program is broadly described through the following models:

1. Fee for Service: This is the current model primarily used by the Town. Staff coordinate and project manage professional services contracts.
2. Selected Assignments using Contracted Staff: In this model Staff takes on selected assignments of general research or assessments internally using the current Staff

¹ The 37 projects don’t include multi-year projects initiated prior to 2014 but were still active in 2014. The project are those only initiated over 2014 to 2018.

² Several of the projects are multi-year projects yet to be completed.

complement as time permits or through hiring a contract person for a specific project or set of projects.

3. Construction Monitoring by Town Staff: In this model design activities are completed by an engineering consultant on a Fee for Service basis (Model 1) to the point where construction drawings and technical specifications are prepared. At this point, dedicated Town Staff become the contract administrators through to construction completion.
4. Engineering Design and Contract Administration by Town Staff: This model contemplates the development of internal engineering capabilities to deliver an entire capital project including both design, construction monitoring and contract administration.

A more detailed discussion on each model is provided in Attachment #1.

D. Analysis

There are benefits to using all of the models described above dependent on the nature of the project considered. The Town has had past successes using all four different project delivery models.

For large, technically complex projects and/or ones where Staff resources are not available, the hiring of engineering consultants on a fee for service basis is warranted (Model 1). Where projects are well understood by Staff or skills can be readily obtained, hiring contracted staff on a time/task/project specific basis may be the best fit (Model 2). There can be great added value in having Town Staff undertake construction monitoring and related contract administrative activities (Model 3). Lastly, linear projects that are somewhat routine in nature can be completed by in-house design, construction monitoring and contract administration resources (Model 4).

Staff feel that there are warrants to undertake additional analysis through the preparation of a business plan. The finding will be presented for Council direction prior to the preparation of the 2020 Budget. The 2019 5yr IPW operating and capital program, as proposed within in the 2019 Budget, has sufficient projects to support 4 new engineering staff that would otherwise be assigned to external engineering consultants. There are opportunities to re-prioritize the capital program to optimize the introduction of internal engineering capabilities to insure a consistent workload especially if grant applications are successful which do not permit the use of internal staffing.

The key barriers to expanding internal engineering resources is: i) a commitment to consistently advance a linear capital program; and, ii) workspace for the new Staff. There is typically no shortage of projects that could be done. At times through projects can be delayed due to re-prioritization in deference to other projects or are re-considered for whatever reason such that completion as first anticipated is hindered. Workspace at Town Hall is limited. The addition of upwards of four staff plus administrative support will require the creation and/or the reallocation of workspace at Town Hall or finding another work location.

During the development of a business plan for internal engineering, Staff will consider when there may not be a full workload and/or should the Town wish to additionally grow its capabilities. Staff could be offered to deliver projects in other departments, neighbouring municipalities, and/or to undertake subdivision development projects.

Since there is no expectation that new internal engineering staff will be available to undertake projects planned to commence in 2019, consideration should be given to either commencing the projects using external engineering consultants or deferring the projects one construction season (1 year) until internal resourcing is available. The implication of deference is the ripple effect throughout the 5 year capital plan. Other works and developments dependent on the delivery of a particular project 2019 will also be delayed. The projects planned to commence in 2019 that included engineering fees are listed in Attachment #2. In order to keep moving forward on capital needs, Staff feel that the 2019 IPW projects with engineering fees should advance using external engineering resources. Where projects are multi-year in nature, the Town has the opportunity to commence design using engineering consultants and then utilize internal staff during construction.

Recommendation

Staff recommend that Council direct Staff to develop a business plan to create internal engineering capabilities as outlined in Staff Report CSPW.19.043, and that Council authorize Staff to utilize external engineering services for Infrastructure and Public Works Department projects within the 2019 Capital Budget, and direct Staff to require multi-year design and construction administration assignments to be flexible to enable the Town to undertake the contract administration phase of the assignment internally.

Potential Implementation Schedule

Although an implementation schedule for internal engineering capabilities will be a key deliverable of the business plan, a potential implementation schedule could be:

- In 2019 - Recruit 1 or 2 fulltime contract administrators late 2019 to start Feb / March 2020 for orientation, tender preparation, procurement, and pre-project preparation. This staff will undertake construction monitoring in 2019 for works designed by engineering consultants.
- In 2020 – Recruit Manager of Infrastructure Engineering, a Design Technologist and perhaps administrative support to commence in-house design Q2 2020.

Next Steps

The business plan will be created internally and presented to Council in the fall of 2019. Options will be provided within the plan on how to phase in implementation of internal engineering capabilities.

With respect to several projects commencing in 2019 that Council has requested be reviewed for specific delivery by consulting assignments or internal resources, Staff Report CSPW.19.042 has been prepared to address this question.

E. The Blue Mountains Strategic Plan

Goal #1: Create Opportunities for Sustainability
Objective #5 Improved Visibility and Local Identity

Goal #2: Engage Our Communities & Partners
Objective #1 Improve External Communication with our Constituents
Objective #2 Use Technology to Advance Engagement

Goal #4: Promote a Culture of Organizational & Operational Excellence
Objective #1 To Be an Employer of Choice
Objective #2 Improve Internal Communications Across our Organization
Objective #3 To Consistently Deliver Excellent Customer Service
Objective #4 To Be a Financially Responsible Organization
Objective #5 Constantly Identify Opportunities to Improve Efficiencies and Effectiveness

Goal #5: Ensure Our Infrastructure is Sustainable
Objective #1 Develop a Long-Term Asset Management Plan for the Maintenance, Renewal and Replacement of Existing Infrastructure
Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability
Objective #3 Implement Best Practices in Sustainable Infrastructure
Objective #4 Ensure that Infrastructure is Available to Support Development

F. Environmental Impacts

Better designed and constructed infrastructure is less prone to failure leading to fewer spills to the natural environment.

G. Financial Impact

Included in the 2019 Approved Capital budget, as shown in Attachment #2, is \$769,700 in Engineering. These Engineering costs are included in the overall capital budget of \$8,702,200 which is funded from various sources included reserve funds, Development Charges and Property Owners.

H. In Consultation With

Senior Management Team

Sam Dinsmore, Deputy Treasurer / Manager of Accounting and Budgets

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required.

Comments regarding this report should be submitted to Reg Russwurm,
ipwdirector@thebluemountains.ca.

J. Attached

1. Alternate Capital and Operating Program Delivery Models
2. Projects Commencing in 2019 with Engineering Fees

Respectfully submitted,

Reg Russwurm

Reg Russwurm, MBA, P.Eng
Director of Infrastructure and Public Works

For more information, please contact:

Reg Russwurm
directoripw@thebluemountains.ca
519-599-3131 extension 260