



# Staff Report

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## Operations – Water & Wastewater Services

**Report To:** COW-Operations\_Planning\_and\_Development\_Services  
**Meeting Date:** November 19, 2024  
**Report Number:** CSOPS.24.051  
**Title:** Single Source Town Infrastructure Analysis Modelling  
**Prepared by:** Allison Kershaw, Manager of Water & Wastewater Services

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### A. Recommendations

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THAT Council receive Staff Report CSOPS.24.051, entitled “Single Source Town Infrastructure Analysis Modelling”;

AND THAT Council approve the single source procurement of Town Infrastructure Analysis Modelling for the assessment of infrastructure capacity and design to J.L. Richards & Associates Limited for a period of five years, with an opportunity to renew for an additional five-year term.

AND THAT Council approve a \$30,000 yearly budget for the maintenance of the Town’s Infrastructure Analysis Models.

### B. Overview

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This report seeks Council approval to use the services of J.L. Richards & Associated Limited (JLR) for operating and maintaining the Town’s infrastructure models. This includes the Town’s Water System Model, the Wastewater System Model and the Drainage System Model.

### C. Background

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The Town, through various consulting firms, developed hydraulic models for the water, wastewater and drainage systems to simulate the flow of water through pipes, pumps, valves and other components of the systems. The models are computational tools used to simulate and analyze various aspects of the water distribution/collection and management systems. The models help in assessing capacity and evaluating the impact of new development or changes to the existing systems. Models must be maintained and calibrated to provide the most accurate information.

## **D. Analysis**

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The Hydraulic Water Model was developed by C3 Water and Geo Advice in 2015. The model sits in WaterCAD. The model has been updated and calibrated several times, most recently by JLR, through the Eastside Water Storage and Supply Environmental Assessment.

The Wastewater Collection Model was developed by Cole Engineering in 2018. This model software is PCSWM. It has been updated and calibrated by JLR in 2024, through the Wastewater System Master Plan.

The Drainage System Model was developed by Tatham Engineering in 2023. This model also utilizes PCSWM, plus EXTRAN, VISUUAL-OTTHYMO and HEC\_RAS. This model is currently being calibrated.

The Developers' Consultants rely on the models to ensure there is adequate capacity for the new developments they are proposing. The Town is obligated to ensure that our models are up to date and calibrated. The Town could provide the model to the Developers' Consultants for them to run and then provide the results to the Town, however, to protect the integrity of the model, staff recommend that a consultant that is not involved with new developments be the keeper of the models and be contracted to run the models on their behalf. This will provide an unbiased opinion of the results, and ensure the models are not corrupted.

Although the majority of the work will be for new developments, and the Developers will be responsible for the cost, Town projects will also require model analysis for various projects and activities. When the analysis is completed for a Developer, the Town obtains an estimate from JLR, and the costs are passed along to the Developer. For Town projects requiring model analysis, the capital project will incur the cost as part of the project budget. Additionally, Staff recommend that the Town include a 15% administration fee to the Developers to cover the administration costs. This fee will be included in the Fees and Charges By-law.

The models will require yearly maintenance to make minor revisions and add newly constructed infrastructure. These updates are required to ensure the models accurately reflect the systems.

Staff recommend the contract be for a period of five (5) years with the opportunity to renew for a second five (5) year term, with the condition that the Town is satisfied with the level of service and there continues to be no conflict of interest.

Purchasing Policy POL.COR.07.05 notes:

Single Sourcing is a method of procurement whereby there is more than one vendor able to supply and a purchase order is issued or contract awarded without a competitive bidding process. Single Sourcing will be permitted if one or more of the following circumstances apply:

- When competitive procurement may be found to be impractical.

The use of Sole and Single Sourcing with a particular vendor exceeding \$25,000 must be approved by Council. Any single or sole sourcing with an amount between \$5,001 and \$24,999 must be reported by the applicable Department Head and approved by the Manager of Purchasing and Director of Finance. In order for a division to sole or single source for goods or services exceeding \$25,000, an operating strategy must be presented with Purchasing input and approved by Council, outlining the rationale. Input must be sought from the Manager of Purchasing to ensure the purchasing principles in the Town's Procedures are taken into consideration and risk to the Town in minimized.

## **E. Strategic Priorities**

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### **1. Communication and Engagement**

We will enhance communications and engagement between Town Staff, Town residents and stakeholders

### **2. Organizational Excellence**

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

### **3. Community**

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

### **4. Quality of Life**

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

## **F. Environmental Impacts**

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The Town's computational models play a critical role in assessing the impacts of various activities on the Town's infrastructure. The models can provide simulations of additions to the systems so staff can understand the impacts. They can also provide indications of effects of climate change on the systems.

Computational models are a valuable tool to ensure our systems can support our current and future users of the Town's services.

## **G. Financial Impacts**

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The cost to run the model will be included in the total budget for capital projects requiring modelling analysis. When modelling is required for a new development, the Developer covers the cost of the analysis, plus a 15% administration fee, to be paid to the Town.

The cost to maintain and update the model shall be paid through water and wastewater reserves, user fees and taxation (Drainage only).

## **H. In Consultation With**

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Monica Quinlan, Director of Corporate and Financial Services

Brian Worsley, Manager of Development Engineering

Jim McCannell, Manager of Roads and Drainage

Pruthvi Desai, Manager of Capital Projects

Vicky Bouwman, Acting Deputy Treasurer/Manager of Budgets & Accounting

Serena Wilgress, Manager of Purchasing and Risk Management

Jason Petznick, Communications Coordinator, Capital Projects.

## **I. Public Engagement**

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The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Allison Kershaw, Manager of Water & Wastewater Services [managerwww@thebluemountains.ca](mailto:managerwww@thebluemountains.ca) .

Respectfully submitted,

Allison Kershaw,  
Manager of Water & Wastewater Services

Alan Pacheco  
Director Operations

For more information, please contact:  
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**Report Approval Details**

Document Title:	CSOPS.24.051 Single Source Town Infrastructure Analysis Modelling.docx
Attachments:	
Final Approval Date:	Nov 4, 2024

This report and all of its attachments were approved and signed as outlined below:

**Allison Kershaw - Nov 4, 2024 - 1:41 PM**

**Alan Pacheco - Nov 4, 2024 - 8:55 PM**