

**Municipality Of Chatham-Kent**  
**Infrastructure and Engineering Services**  
**Drainage, Asset and Waste Management**

**To:** Mayor and Members of Council

**From:** Brigian Barlow,  
Manager, Drainage Services

**Date:** December 22, 2020

**Subject:** RFP R20-345 – Thames River, Lake St. Clair, Sydenham System Dike Reports

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**Recommendations**

It is recommended that:

1. This report be received as an update on the Municipality's efforts to obtain and utilize the Disaster Mitigation and Adaptation Funding (DMAF) approved by the federal Ministry of Infrastructure and Communities.
2. The request for proposal (RFP) for the Thames River, Lake St. Clair, Sydenham System Dike Assessment be awarded to Spriet Associates Ltd. at an estimated value of \$1.1 million (including H.S.T.).

**Background**

The Agriculture and Rural Development Act (ARDA) system consists of extensive diking infrastructure that protects approximately 80,000 acres of Chatham-Kent lands. It extends along nearly 200 kilometers of shoreline including the banks of the Thames River, Lake St. Clair, the Sydenham River and several tributaries affected by these watercourses. It has been established through multiple streams of government funding, both provincial and federal, as well through private and municipal efforts. These efforts can be traced to early days of settlement however, recent projects of greater magnitude were completed in the 1960's, 70's and early 80's using provincial and federal funding. These dikes in the above mentioned areas have become known as "ARDA" dikes.

The projects completed in the 60's, 70's and 80's were impressive feats of engineering and government collaboration. Despite the scope of the accomplishment, the efforts failed in establishing a procedure of maintaining the drainage features moving forward. Issues include lack of legal access to the sites, definition of the parties responsible and a mechanism to recover costs.

Today these dike systems are in a state of disrepair. Erosion, rodent damage, overgrowth and settlement of the earthen berms have weakened the system straining its capacity. In February 2019, elevated flows in the Thames River as a result of a spring ice jam, evoked an emergency designation and received media coverage as Drainage and Public Works crews mobilized to patch leaks and secure sections of the dikes from breach.

Of the 80,000 acres in the protected area, there are 700 km of municipally owned roadways, 6,250 homes, Hydro-One transmission towers, Enbridge transmission pipelines, multiple rail lines, several small communities and 74,000 acres of high value farmlands.

Threats of dike breaches are heightened by any combination of high water levels, high intensity rainfall events and ice jams. As the frequency of these threats is escalating and the condition of the dikes deteriorate, the risk of a catastrophic event increases. The Municipality has a clear interest in protecting against this risk due to the extensive infrastructure present in the impact zone as well as potential liability created by public safety concerns.

An ideal solution will require municipal bylaws under the Drainage Act that include:

- Provision for legal working corridors and access points to carry out maintenance and repair
- Existing condition analysis of all dikes and structures
- Design criteria for repair and improvement
- A mechanism to recover costs from other interest groups within the protected area
- A mechanism to recover costs from upstream lands contributing storm water run-off which leads to flood events
- Government funding to help reduce the cost burden to all parties

The Drainage Division has undertaken some minor reinforcement repairs of areas that were identified as needing immediate action since the 2019 high water event. Major project work moving forward includes raising sections of the dikes to a uniform elevation, repairing scour erosion, armoring and widening certain dike sections.

In 2019, Infrastructure Canada (INFC) approved the Municipality of Chatham-Kent for funding under the DMAF, up to a maximum of \$16 million. These funds require 60% matching contribution (\$24 million) from the municipality. On Sept 23, 2019, Council approval was received for our 60% share in order to receive the maximum funding.

Legal access and working corridors can be established by means of municipal bylaws that adopt engineer's reports under the Drainage Act. These reports will also afford the municipality the right to assess costs to landowners, utilities, and neighboring municipalities as appropriate. In order to accomplish this, the municipality must appoint a drainage engineer to prepare a report under the Drainage Act. Such a report will detail the work to be completed, cost estimates, schedules of assessment, working corridors and provide for any damages or allowances to owners. The final report would be presented to the Drainage Board for consideration. Upon adoption of the report and the exhaustion of any appeals, the bylaw is passed by Council through the consent agenda.

The combination of invoking the Drainage Act and taking advantage of federal funding mends the gaps in the municipality's ability to complete these critical improvements to the dikes constructed previously under ARDA. Without this permanent solution, the municipality remains incapable of gaining access to maintain these structures or assess the costs for doing so to all benefitting parties.

Upon approval of recommendation #2, Spriet and Associates will be instructed to prepare four drainage reports, namely the North Thames River Dikes, South Thames River Dikes, Lake St. Clair Dikes, and Sydenham System Dikes. These reports and accompanying by-laws provide all of the necessary tools to complete this work and secure DMAF support. Projects were divided into these four portions as each dike section protects four separate areas of land.

The Drainage Act requires that the municipality consult affected owners once an engineer has been appointed. Affected owners also have the ability to submit comments for consideration once the report has been drafted and circulated. Official appeals can also be made to the Drainage Board before final passage.

A map has been attached showing the overall reaches of dike that will be assessed through this RFP. Legal working corridors and proposed improvements will be established where deemed essential or reasonable and not necessarily affect each and every meter of dike shown.

### **Comments**

Two proposals were received by the Purchasing Department on November 18, 2020 and forwarded to the Drainage Division for review and evaluation by the evaluation panel. Both proposals adhered to the main requirements of the RFP.

Table 1 provides a summary of the evaluation scores associated with the received proposals.

<b>Rank</b>	<b>Submitting Firm</b>	<b>Office Location</b>	<b>Final Score (out of 100)</b>
<b>1.</b>	Spriet Associates London Limited	London, ON	96.34
<b>2.</b>	RC Spencer & Associates Inc.	Chatham, ON	61.67

The proposal submitted by Spriet Associates London Limited included the dedication of a well-rounded project team with Drainage Act and Shoreline protection experience. The proposal also illustrated Spriet's solid understanding of the methodologies and quality controls necessary to successfully complete the project and to satisfy the DMAF program requirements.

## **Areas of Strategic Focus and Critical Success Factors**

The recommendations in this report supports the following areas of strategic focus:

- Economic Prosperity:  
Chatham-Kent is an innovative and thriving community with a diversified economy
- A Healthy and Safe Community:  
Chatham-Kent is a healthy and safe community with sustainable population growth
- People and Culture:  
Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community
- Environmental Sustainability:  
Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendations in this report support the following critical success factors:

- Financial Sustainability:  
The Corporation of the Municipality of Chatham-Kent is financially sustainable
- Open, Transparent and Effective Governance:  
The Corporation of the Municipality of Chatham-Kent is open, transparent and effectively governed with efficient and bold, visionary leadership
- Has the potential to support all areas of strategic focus & critical success factors
- Neutral issues (does not support negatively or positively)

## **Consultation**

The proposals were received, opened and distributed to the Drainage Division by the Purchasing Officer. Proposals were reviewed, evaluated and ranked by a panel consisting of the three Drainage Superintendents that will be managing the projects.

## **Financial Implications**

This project is being awarded as a time and material contract and will be on-going over the next eight years. The total value of the contract is estimated at approximately \$1.1 million over that period. The project is to be funded from the DMAF reserve.

Should the project exceed the estimated value, an update will be provided and further approvals will be requested.

Prepared by:

Reviewed by:

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Reviewed by:

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Thomas Kelly, P. Eng., M.B.A.  
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Attachment: Embankment Areas\_RTC2020)

C: None

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