



CITY OF KINGSTON
REPORT TO COUNCIL

Report No.: 10-093

TO: Mayor and Members of Council
FROM: Jim Keech, President and CEO, Utilities Kingston
RESOURCE STAFF: Mark Van Buren, Director of Engineering
DATE OF MEETING: March 23, 2010
SUBJECT: Cartegraph – Geographic Information System Integration Services

EXECUTIVE SUMMARY:

The Engineering Department currently uses software produced by Cartegraph Systems Inc. to maintain its asset inventory. A Business Process Review of Cartegraph workflows was prepared in 2008 by Applied GeoLogics Inc. The study recommended that Engineering data be more tightly integrated with the City’s Enterprise GIS to improve data maintenance procedures by leveraging spatial editing and analysis capabilities of Geographic Information Systems.

Integration between the Engineering Cartegraph database and the Enterprise GIS will promote data sharing and enhance corporate data integrity by reducing duplicate processes. It will also promote future development of right of way asset management initiatives by providing a common spatial database for all right of way stakeholders.

RECOMMENDATION:

THAT Council approve the single sourcing of Applied GeoLogics Inc. to provide Cartegraph – GIS Integration Services in the amount of \$59,600 exclusive of applicable GST as per the provisions of Section 4.5(ii) of the Purchasing By-Law 2000-134 as amended.

AUTHORIZING SIGNATURES:

ORIGINAL SIGNED BY PRESIDENT & C.E.O., UTILITIES KINGSTON	
Jim Keech, President and CEO, Utilities Kingston	
ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER	
Gerard Hunt, Chief Administrative Officer	

CONSULTATION WITH THE FOLLOWING COMMISSIONERS:

Cynthia Beach, <i>Sustainability & Growth</i>	N/R
Terry Willing, <i>Community Development Services</i>	N/R
Denis Leger, <i>Corporate Services</i>	N/R
Jim Keech, <i>President and CEO, Utilities Kingston</i>	√

(N/R indicates consultation not required)

March 23, 2010

- Page 2 -

OPTIONS/DISCUSSION:

The Engineering Department has utilized Cartegraph software since 1998. It was originally implemented to replace an outdated Road Inventory Management System (RIMS). Cartegraph usage has grown since implementation and has become the primary system for maintaining all Engineering infrastructure data including road, storm, walk, and traffic signal information. The system uses Cartegraph's MapDirector product to represent Computer Aided Drafting and Design (CADD) data in combination with the Cartegraph database on a map. This data, however, is not currently available to corporate users in other departments.

A Business Process Review was conducted by Applied GeoLogics Inc. in 2008 with the intention of examining existing data maintenance procedures relating to pavement data. The study provided recommendations to improve current processes to streamline corporate data sharing and operational efficiency. One of the key findings of the study was that road data is currently being maintained in both Cartegraph and the City's Enterprise GIS creating duplicate processes, operational inefficiencies and decreasing data integrity. Subsequently, the scope of the project was expanded to include all Engineering asset data.

The Business Process Review recommended integrating the Cartegraph Enterprise Asset Management System with the Corporate Geodatabase by moving GIS related Cartegraph data to the Corporate GIS. The following advantages will be realized from this integration.

- Integrating the two databases will leverage the investment made by Engineering in developing the Cartegraph system in conjunction with the Corporate GIS by streamlining data workflows and data management practices between Engineering and GIS.
- Improve spatial data management and data quality by standardizing the storage of spatial data in the Corporate Geodatabase.
- Reduce redundant data entry.
- Enable data to be shared between both systems which will make more information readily available across the corporation and to other business systems that make use of the information.
- Promote the use of data standards for engineering data that match corporate standards with respect to street naming and coordinate system adoption among others.
- Provide Call Centre access to engineering data.
- Provide the basis for the future development of an asset management system by providing a common spatial database that will allow all right of way stakeholders at the City of Kingston and Utilities Kingston to access pertinent asset data in a common database in accordance with corporate data standards.

Applied Geologics identified the following issues related to the successful implementation of this project.

- The Cartegraph software required an upgrade to the latest version in order to perform the database integration. This was completed in January of 2010.
- A client licence of ESRI's ArcGIS software is required for any Cartegraph user to have access to the GIS. This was identified as being cost prohibitive based on the number of Cartegraph licences available. The recent signing of an Enterprise Licence Agreement with ESRI has resolved this issue by providing the necessary ArcGIS licences in a cost effective manner.

As a result, staff recommends the single sourcing of the Cartegraph-GIS integration to Applied GeoLogics Inc. as the sole Canadian business partner in providing Cartegraph applications and specialized services.

EXISTING POLICY/BY LAW:

By-Law 2000-134, "A By-Law to establish Purchasing Policies and Procedures"

NOTICE PROVISIONS: N/A

ACCESSIBILITY CONSIDERATIONS: N/A

FINANCIAL CONSIDERATIONS:

A quotation for Cartegraph-GIS Integration Services has been received by Applied Geologics Inc. in the amount of \$59,600 exclusive of applicable GST. There are sufficient funds in the Engineering departmental capital budget for this project.

CONTACTS:

John Piraino, Asset Management Coordinator, Engineering Department 613-546-4291 Ext. 3168

OTHER CITY OF KINGSTON STAFF CONSULTED:

Mark Van Buren, Director, Engineering Department 613-546-4291 Ext. 3218

Phil Healey, Supervisor, GIS Section, Information Systems and Technology 613-546-4291 Ext. 3255

EXHIBITS ATTACHED: N/A