

**STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT**

**REPORT TO:** Council  
**MEETING DATE:** July 13, 2009  
**REPORT NO.:** EPW.09.061  
**SUBJECT:** Funding Source for Water Department  
 Purchase of a Global Positioning System  
 (GPS)  
**PREPARED BY:** John Caswell – Manager of Water &  
 Wastewater Services

**A. Recommendations**

THAT Council approve Staff to purchase a Global Positioning System (GPS) from Cansel Survey Equipment for \$23,822.64 using the Water Department's remaining Machinery and Equipment Capital Budget as outlined in Report EPW.09.061 entitled "Funding Source for Water Department Purchase of a Global Positioning System (GPS)".

**B. Background**

Global Positioning System (GPS) is a space-based radio navigation system that provides reliable positioning, navigation, and timing services to anyone with a GPS receiver. GPS receivers have varying levels of accuracy depending on the specific receiver and the additional equipment available. At present, GPS equipment is available that can provide positioning data that is accurate to within 10 centimeters.

Using this technology, the Town's Water Operations Staff would be able to locate municipal infrastructure more quickly and accurately in emergency situations as well as during normal day to day operation. The GPS can also be used to verify existing Geographic Information System (GIS) mapping data as well as to provide additional location coordinates for hydrants, valves, etc. to enhance the Town's base maps.

On May 28, 2009 Formal Quotation number TBM-2009-28 for the "Supply and Delivery of a Global Positioning System (GPS)" closed with two bidders submitting bids for the Town's consideration. The bids were as follows:

No.	Bidders Name	Date Bid Received	Total Quotation Amount (excl GST)
1.	Cansel Survey Equipment	May 21-09	\$23,822.64
2.	Geoshack Canada	May 27-09	\$6,780.24

The lowest bidder did not meet the required specifications set out in the Formal Quotation document. However, Cansel Survey Equipment's bid did meet the required specifications (see Attachment #1).

The specifications that were not met by the lowest bidder were the inclusion of a dual frequency antenna and a VSR (virtual reference station) network subscription and license. These features play an important role in providing accurate and usable coordinate data. The dual frequency antenna is essential to provide the GPS unit with sub meter accuracy of 10 centimeters. The VSR network subscription allows the GPS unit to collect coordinate data in real time. Coordinate data that is not collected in real time requires conversion to ensure that it accurately represent an object's true location on the earth's surface. Collecting coordinate data in real time reduces the need for time consuming conversions and coordinate data can be input directly into the Town's GIS system reducing the likelihood of inputting erroneous data.

Funding for the award of this Formal Quotation is available from the Water Department's Machinery and Equipment Capital Budget. The Valve Operating System, identified in the capital budget form, was recently purchased from Wachs Canada for \$81,908.05, leaving a balance of \$43,094.94. The cost of the GPS equipment, at \$23,822.64, would not exceed the remaining capital funds. Therefore, Staff recommend that the purchase of the GPS equipment be funded from Water Department's remaining Machinery and Equipment Capital Budget.

### **C. The Blue Mountains' Strategic Plan**

The purchase of a GPS furthers the Town's Strategic Goal #2 "Addressing the Town's municipal infrastructure needs", and Strategic Goal #6 "Providing a strong, well managed municipal government".

### **D. Environmental Impacts**

The use of a GPS unit will allow for more accurate and rapid location of municipal infrastructure, which will reduce the time and energy expended during emergency situations and normal day to day operation. Locating infrastructure more quickly will reduce equipment operating time, which will lower the Town's greenhouse gas emissions.

### **E. Budget Impact**

The Water Department's Machinery and Equipment Capital Budget did not specify funding for any additional equipment other than a Valve Operating System. Of the \$125,000 included in the Machinery and Equipment Capital Budget, \$93,750 is funded from user fees and \$31,250 is funded from Development Charges. As the Valve Operating System was purchased for \$81,908.05, \$43,094.94 remains in this budget. The purchase of a GPS at \$23,822.64 is less than the remaining budget and complies with DC eligible expenses.

### **F. Attached**

Attachment 1 – GPS Bid Analysis

Respectfully submitted,

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John Caswell  
Manager of Water & Wastewater Services

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Reg Russwurm  
Director of Engineering & Public Works

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Sherri Adams  
Manager of Purchasing

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**Bid Analysis June 18/09**

TBM-2009-28 Quotation for a Global Positioning System (GPS)

Bidder

Cansel Survey Equipment Ltd

Geoshack Canada

Tendered Amount	22,058.00	6,278.00
8% PST	1,764.64	502.24
Total Tendered Amount	23,822.64	6,780.24

**Warranty**

Parts	2 Years	1 Year
Labour	2 Years	1 Year
Orientation Session	Included	Included
References	yes	yes
Employee/Service Profile	43 years in business, 120+ employees, 5+ service staff managing TBM account	26 years in business, 28 employees, 5 service staff managing TBM account

**Quotation Specifications**

Durable GPS with integrated receiver	Met specifications	Met specifications
Dual frequency antenna	Met specifications	Did not meet specification
Range pole with mountain bracket	Met specifications	Met specifications
GPS Software	Met specifications	Met specifications
VRS network subscription & license	Met specifications	Did not meet specification
1 year tech support package	Met specifications	Met specifications
Orientation session	Met specifications	Met specifications
Extended 1 year warranty	Met specifications	Met specifications