



Staff Report

Planning and Development Services – Engineering

Report To: Committee of the Whole
Meeting Date: March 10, 2020
Report Number: PDS.20.24
Subject: Sale & Licensing of LiDAR Mapping
Prepared by: Brian Worsley, Manager Development Engineering

A. Recommendations

THAT Council receive Staff Report PDS.20.24, entitled “Sale & Licensing of LiDAR Mapping”;

AND THAT Council authorize signature of a Memorandum of Understanding (MOU) with Grey Sauble Conservation Authority, and Grey County for sale of LiDAR mapping for commercial purposes within the Town of The Blue Mountains (subject to the Town’s data licensing agreement) at a rate of \$250.00 per square kilometer.

AND THAT the Town’s Fee’s and Charges bylaw be amended accordingly.

B. Overview

For the majority of the Town of The Blue Mountains (Town) the most recent Master Drainage planning exercise undertaken is the 1993 Craigeith Camperdown Sub-watershed Study, which was based on five (5) metre contour mapping. Subsequent to the completion of the study, two (2) metre contours were generated from the five (5) metre base mapping, but no update has been made to the study.

Through working with Grey Sauble Conservation Authority, (GSCA) and Grey County, an opportunity to update the Craigeith Camperdown Study, and, provide 0.5m contour mapping for areas of the Town subject to Development pressures, was identified through the National Disaster Mitigation Program (NDMP).

Staff report PDS.18.46 set out the rationale for the Town’s initial investment of \$50,000.00 in the NDMP program. Subsequent to PDS 18.46, additional conversations between Senior Management of the Town and GSCA, identified an opportunity to extend the LiDAR coverage from the original 108 square kilometers to 287 square kilometers, to cover the entire Town. Upon authorization by Council through the 2019 budget process the additional LiDAR coverage was accomplished for a payment of \$34,000.00.

C. Background

The Town's initial NDMP investment of \$ 50,000.00, was matched by \$50,000 from Grey County, \$38,000 (cash & in kind) from GSCA, and \$138,000 from Public Safety Canada, for a Total NDMP project budget of \$276,000.00. Approximately \$73,000.00 in Consultant fees associated with the above was expended within the Town and is intended to be subject of a further report, upon finalization of the project this fall.

While the 0.5m LiDAR coverage is a significant deliverable from the NDMP project; within the Town, significant effort was also expended to:

- Update the Craigeleith Camperdown Sub-watershed Study hydrotechnical models, including consideration of changing climatic conditions, natural & artificial snow melt, and infrastructure sensitivity / resilience to changing climatic conditions;
- Enhance identification of flood sensitive areas, and, update Flood Line Mapping; and
- Develop a real time flood forecasting system, to provide enhanced flood warning & communication system capacity.

However, due to the value of the LiDAR for Engineering and other work, several requests have been made to the Town, Grey County, and GSCA, to make the LiDAR available. It is proposed that the data be made available (at no cost) to consultants working on behalf of Grey County, GSCA or Town as it relates to a specific project, or non-profit research purposes (i.e. universities/schools needing it for research). All commercial applications would be charged at \$250.00 per square kilometer. Any requests for data in the Town would be directed to the Town; outside of the Town if GSCA receives a request for LIDAR data, then GSCA would provide data and collect a fee. If Grey County received request for LIDAR data outside of the Town, Grey would provide data and collect fee.

D. Analysis

Discussions with GSCA and Grey County concluded that in order to cover administrative expenses and be at fair market price; \$250.00 per square kilometer should be charged. Revenues for coverage within the Town would be payable to the Town, while coverage outside the Town would be dealt with by Grey County and Grey Sauble Conservation Authority, as noted above.

E. The Blue Mountains Strategic Plan

Goal #2: Engage Our Communities & Partners
Objective #2 Use Technology to Advance Engagement

Goal #4: Promote a Culture of Organizational & Operational Excellence
Objective #4 To Be a Financially Responsible Organization

Goal #5: Ensure Our Infrastructure is Sustainable
Objective #3 Implement Best Practices in Sustainable Infrastructure

F. Environmental Impacts

LiDAR imaging will assist in ensuring more accurate drainage analysis and design in the Municipality.

G. Financial Impact

The sale of the LiDAR should recoup some of the Town's expenditure, however the extent of potential revenue can-not be estimated at this time. LiDAR revenues will be reported on in conjunction with the enhanced flood information this fall.

H. In consultation with

Gloria Dangerfield, *GIS/Database Coordinator, Interim Communications & Education Lead*, Grey Sauble Conservation Authority

Randy Scherzer, *Director of Planning*, Grey County

Ruth Prince, *Director of Finance & IT Services*

Cathy Bailey, *Manager Information Technology*

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 Brian Worsley,
developmentengineering@thebluemountains.ca

J. Attached

1. Attachment 1, PDS.18.46

Respectfully submitted,

Brian Worsley, P.Eng., MICE, PMP
Manager Development Engineering

Nathan Westendorp, RPP, MCIP
Director of Planning and Development Services

For more information, please contact:
Brian Worsley
developmentengineering@thebluemountains.ca
519-599-3131 extension 224



Staff Report

Planning & Development Services – Development

Engineering Division

Report To: Committee of the Whole
Meeting Date: April 23, 2018
Report Number: PDS.18.46
Subject: Craigleith Camperdown Subwatershed Study Update
Prepared by: Brian Worsley, Manager Development Engineering

A. Recommendations

THAT Council receive Staff Report PDS.18.46, entitled “Craigleith Camperdown Subwatershed Study Update”, and

SHOULD the Grey Sauble Conservation Authority receive matching Public Safety Canada funding, that Council endorse the transfer of \$50,000.00 from the Craigleith Camperdown Subwatershed Update Budget, to the Grey Sauble Conservation Authority, to facilitate updating the 1993 Craigleith Camperdown Subwatershed Study.

B. Overview

The purpose of this report is to inform Council of partnering efforts between Town staff and Grey County and Grey Sauble Conservation Authority, to obtain enhanced topographic mapping, and update hydrologic data to consider Climate Change impacts, including Snowmelt runoff.

C. Background

The base mapping used to delineate watershed boundaries, determine drainage areas, calculate flows and undertake stormwater management analysis in most of the Town, (including the 1993 Craigleith Camperdown Subwatershed area) is based on 5 metre contour mapping. In mid-2017, two (2) metre interpolated contours became available, however, within urban areas, 0.5m contours are more typically utilized, and cannot be obtained from currently available data.

The 2018 Town of the Blue Mountains budget contains a roll over item for \$300,000.00 to update the 1993 Craigleith Camperdown Subwatershed Study. Discussions with the Grey Sauble Conservation Authority highlighted that key facets of updating the Subwatershed Study would be upgrading topographic mapping from the 5 metre interval used in the 1993 study to the current de-facto norm of 0.5 metre contours, consideration of Climate Change impacts, and

incorporation of the land uses changes that have occurred in the 25 years since the original study was undertaken.

The National Disaster Mitigation Program being administered by Public Safety Canada, is currently considering Project proposals for Risk Assessments, Flood Mapping, Mitigation Planning & Implementation, wherein matching federal dollars would be provided to project partners. The Grey Sauble Conservation Authority has an application into Public Safety Canada for National Disaster Mitigation Program (NDMP) Funding, to undertake 0.5m LiDAR contour mapping and Flood Risk Assessment throughout their watershed, with particular emphasis on Grey County roads, bridges & culverts, the Town of the Blue Mountains, the Craigleith Camperdown Subwatershed area, Climate Change impacts, and Snowmelt runoff.

Funding for the project is to be \$120,000.00 from NDMP funds, \$50,000.00 from Grey County, \$20,000.00 from Grey Sauble Conservation, and \$50,000.00 from the funds identified above for the Town of the Blue Mountains update to the 1993 Craigleith Camperdown Subwatershed Study.

D. Analysis

Partnering with Grey County and Grey Sauble Conservation Authority, to receive matching funding from Public Safety Canada through the National Disaster Mitigation Program (NDMP), provides an opportunity to update the 1993 Craigleith Camperdown Subwatershed. The update will provide 0.5m contours through-out the Town, update land use and hydrologic parameters within the Craigleith Camperdown Subwatershed study area, and provide updated Rainfall Intensity Duration Frequency data considering climate change to facilitate better runoff estimates.

E. The Blue Mountains Strategic Plan

Goal #2: Engage Our Communities & Partners

Goal #5: Ensure Our Infrastructure is Sustainable

F. Environmental Impacts

None at this time.

G. Financial Impact

\$50,000.00 from \$300,000.00 Craigleith Camperdown Subwatershed budget.

H. In consultation with

Discussions have taken place with Grey Sauble Conservation Authority and Grey County staff, as well as Town Finance Staff and Director of Planning and Development Services to verify availability of funds.

I. Attached

None.

Respectfully submitted,

Brian Worsley
Manager Development Engineering

For more information, please contact:
Brian Worsley
planningservices@thebluemountains.ca
519-599-3131 extension 224