



Staff Report

Infrastructure & Public Works

Report To: Committee of The Whole
Meeting Date: August 21, 2017
Report Number: CSPW.17.065
Subject: Hard Surfacing of Lake Drive
Prepared by: Jim McCannell, Manager of Roads and Drainage

A. Recommendations

THAT Council receive Staff Report CSPW.17.065 entitled "Hard Surfacing of Lake Drive"

AND THAT Council direct staff to create a Capital Budget sheet for the Hard Surfacing of Lake Drive to be included in the 2018 budget discussion.

B. Overview

In response to a resident request, Staff have investigated the abilities and the cost implication to hard surface Lake Drive. Staff recommend that a capital sheet be prepared for consideration during the 2018 Capital Budget deliberation.

C. Background

The Town was approached by residents interested in upgrading Lake Drive from a gravel surface to a hard surface. The letter from a concerned resident was included in the May 29th Council Package. At the May 29th Council Meeting, Council requested that Infrastructure and Public Works prepare a Staff report to Council for the August 21, 2017 Council Meeting.

In 2009 the Town undertook a project to extend water and wastewater service along Lake Drive per the Town's Official Plan and requests by residents. Concurrent to the extension of services, the Town also undertook an investigation into options for reinstating the road after the installation of services as Lake Drive was determined to have an inadequate structure, insufficient surface width, and lacked an adequate turnaround. The road prior to 2009 posed a challenge for winter maintenance, garbage collection and emergency services as well as causing abnormally high maintenance costs to the Town and inadequate service to residents. The road is shown as approximately 900 m in length. In 2009, 4 road options were presented to the residents, Option #4 was constructed. These included:

Option #1 - Replace the granular materials and reinstate a 3.5 m road without providing any road or drainage improvements, this option was not considered reasonable.

Option #2 - Full rural reconstruction to Town Standard. The cost of rural reconstruction was estimated to be \$1,530,000 in 2009. This cost does not include clearing and grubbing the road allowance, rough grading the road base, constructing retaining walls or a turnaround. Due to the cost and site restrictions, this option was not considered viable.

Option #3 – Reconstruction and paving of 4.0 m wide road platform with significant road and drainage improvements. Estimated costs for the road improvement, the site works and drainage improvements along with the utility relocates totaled \$575,000 (2009).

Option #4 – The option recommended by Town Staff, in consultation with the project engineer, was to upgrade from the existing condition to a 6m gravel road platform (4 m gravel road platform with a 1 m shoulder) with the provision of lay-bys at 300m intervals to accommodate two-way traffic. After public consultations, this option was selected as it best addressed concerns of Town staff in regards to future liability; particularly, vehicle safety on a single lane road with two lane traffic. The estimated cost for the recommended road improvements was \$338,978 (2009). This design was accepted and was constructed in 2009.

The road was reconstructed in 2009 to provide 150mm of Granular 'A' Material and 450mm of Granular 'B' material (see Attachment 1). The surface remained gravel. No drainage improvements were made at the time of construction.

Traffic Counts:

2013 Road Needs Study Update estimated the Average Annual Daily Traffic (AADT) on Lake Drive as 70 vehicles per day. Updated traffic counts were completed in July of 2017 and showed the average was 43 vehicles per day (vpd).

D. Analysis

Staff is not recommending the placement of a hard surface without drainage improvements. The lack of ditches or sub-drains and drainage outlets to Georgian Bay does not support the placement of a hard surface. As a gravel road the surface is able to move and heave during the year, whenever the surface becomes uneven or rough, crews can simply grade the gravel surface. A hard surface will become riddled with potholes very quickly and the residents and the Town will not receive a full life cycle out of the road surface.

In order to place a hard surface the granular base must be well drained. This is the reason why roads are designed to have drainage ditches lower than then the "B" gravel. On rural roads the center of the ditch is lower than the gravel to allow the water to flow out of the road and into the ditch. For the ditches to work properly they must drain or outlet to a lower area. Along Lake Drive that drainage outlet will be to the Bay. The Town will require several drainage outlets along the length of Lake Drive in order to drain the road base. This can be facilitated through drainage easements. The Town does not own any lands that front onto the bay therefore any drainage outlets will have to be within easements over private lands. It is

unknown how many or where the drainage easements will be needed. A topographical survey of the road will identify the low areas and will help identify possible outlet locations. Drainage easements will be needed for either road side ditches or sub-drains.

The budget for this project will need to include:

- A survey and preliminary Engineering to identify possible outlets. This work will also determine the impact of road side ditches over installing sub-drains. This can be described as the drainage system and could be a combination of ditches, storm sewers and sub-drains. (note, a sub-drain is also referred to as tile drain that collects water from the surrounding materials and directs water away.)
- Legal work to secure drainage easement in favour of the Town.
- Final design and details of how the drainage system will work, pipe sizing, location and length and ditch elevations. Pit falls are utilities conflicts with the ditches or subdrains. There may be underground services that may be in the way of installing the drainage system. The drainage system will need to be designed around the utilities or the utilities will need to be relocated.
- Shaping and compacting the road surface
- The simple cost of placing a double surface treatment is approximately \$40,000 while the cost of placing a single lift of 65mm of HL4 hot mix asphalt is approximately \$85,000. This does not include any additional impact on existing entrances.

Staff is recommending a capital budget sheet be brought forward during the 2018 Budget deliberation showing \$40,000 in year one of the project to allow for a survey and preliminary Engineering of a Lake Drive drainage system. Once the costs are known for easements and construction a capital sheet can be prepared for easement acquisition, final design and construction.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable

F. Environmental Impacts

None

G. Financial Impact

For this type of project the Town has two funding sources available: Local Improvement and taxation. In order for the Town to levy the capital costs back to the property owners that would benefit from the hard surfacing of Lake Drive (Local Improvement) there needs to be a petition submitted to Council making this request.

As per Ontario Regulation 586/06 section 9.2 the petition must be signed by at least two-thirds of the owners and those owners must represent at least half of the property value. At this point the Town has received correspondence from one property owner on Lake Drive which isn't

sufficient to fund this as a Local Improvement, without reaching out to the other property owners. If the petition is received and Council approves proceeding with the works, taxation will still be required as the Town will fund the intersection costs as well as any Town owned property frontage.

The other funding option that Council could consider is funding the complete project from taxation, or in this case the Road Reserve. The care and maintenance of roads are a taxation funded service provided by the Town. Changing this surface type from gravel to hard would be an increase to the level of service being provided.

If this is a level of service that Council would like to increase, than other gravel roads in the Town should also be considered for this increased service.

H. In consultation with

Sam Dinsmore, Deputy Treasurer/Manager of Accounting & Budgets

I. Attached

1. Lake Drive, Typical Road Cross Section, C.C. Tatham, May 2008.

Respectfully submitted,

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ATTACHMENT 1

