



**CITY OF HAMILTON**  
**PUBLIC WORKS DEPARTMENT**  
*Engineering Services Division*

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	April 16, 2018
<b>SUBJECT/REPORT NO:</b>	Road Resurfacing works due to Winter damage (PW18020a) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Sam Sidawi, P.Eng. Manager, Asset Management (905) 546-2424, Extension 4479
<b>SUBMITTED BY:</b>	Gord McGuire Geomatics & Corridor Management Public Works
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That the road segments identified in Appendix "A" of report PW18020(a) be approved for capital rehabilitation as part of the 2018/19 Corridor Capital Program totalling to a maximum of \$5.9M;
- (b) That the road segments to be rehabilitated in Appendix "A" be funded from the Investment Stabilization Reserve (Account No.112300) and be repaid over a 15 year term, at a cost to borrow of 3.1% as moved in a motion by the Mayor at the March 2, 2018 General Issues Committee Budget meeting and approved by Council on March 8, 2018;
- (c) That the General Manager of Public Works be authorized to procure all or some of the works identified in Appendix "A" through Procurement Policy #11 Non-Competitive Procurements, where deemed appropriate, to expedite the works for this construction season.

**EXECUTIVE SUMMARY**

During the winter of 2018 Southern Ontario experienced severe weather conditions that have negatively impacted the performance of municipal roads. Numerous freeze-thaw cycles along with extreme temperature swings, which are consistent with climate change, have accelerated roadway surface deterioration. As a result the city has had to increase short term interventions to address the accelerated decline of the roadways condition.

In the Information Report (PW18020) dated March 2, 2018 staff outlined the plan to prioritize the City of Hamilton roads that are in need of short term repair interventions as

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a result of accelerated roadway deterioration. The plan will be funded from the Investment Stabilization Reserve (Account No.112300) and construction charged to Project ID. 4031811017. Public Works staff compiled the road related information to prioritize the roads using the following six criteria mentioned in the Information Report PW18020:

- 1) Overall Condition Index
- 2) Risk Management Claims
- 3) Traffic Volumes
- 4) Speed Limit
- 5) Truck/Transit Route
- 6) Existing Capital Program

Public Works Staff has identified 64 candidates at an estimated rehabilitation cost of \$39.6M dollars. These roads were then prioritized as per Appendix “A”.

A prioritization tool as described above was developed as a Continuous Improvement project to objectively prioritize capital works projects. Through the utilization of data and applying the right strategy at the right time this tool maximizes the return on investment and level of service as well as reduces lifecycle costs.

The identified roads (as per Appendix “A”) totalling 30.7 lane km are recommended to receive a minor resurfacing treatment up to 80mm of the top course of asphalt. This maintenance treatment (see Appendix “B”) is a targeted intervention on the travelled surface only and will not address any significant base repair, concrete repair, or underground utility repair.

This method together with the procurement recommendation will allow for a more expedited delivery of the program.

The resurfacing treatment is expected to last up to 10 years. This strategy will improve the level-of-service and maintain the current operational function of the assets.

***Alternatives for Consideration – See Page 4***

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:** The \$5.9M to support infrastructure investments is to be funded from the Investment Stabilization Reserve (Account No.112300) and be repaid over a 15 year term, at a cost to borrow of 3.1%.

**Staffing:** N/A

**Legal:** N/A

**HISTORICAL BACKGROUND**

N/A

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

❖ Procurement Policy, Section 4.11, Policy #11 Non-competitive Procurements

This report will authorize the General Manager of Public Works to request prices from local contractors capable of delivering quality works at required prices within given timeframes.

The extension of current contracts will explored as an option, otherwise new contracts or purchase orders will be established to deliver these works.

Issuance of a new tender package specific to these projects could delay the delivery of these works beyond 2018/19 given current work programs.

## **RELEVANT CONSULTATION**

The following groups were consulted regarding the proposed actions:

- Roads & Traffic
- Risk Management
- Finance & Administration
- Procurement

Road & Traffic, Risk Management, and Finance & Administration are in agreement with the proposed actions to meet the 2018/19 completion. The Procurement Section is not in agreement with this process as they would prefer the work to be tendered competitively.

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

Public Works staff has recently identified a subset of the city's arterial road network that have been significantly affected by this winter's drastic climate condition. Using the above mentioned prioritization tool, the ratings were determined for this subset of arterial roads.

For this analysis all of the criteria were given equal weight and then added up to come up with an aggregated total score. Finally, the roads were listed from the highest total rating to the lowest. The attached table (Appendix "A") lists the recommended projects that prioritization tool generated.

Public Works Staff has reviewed the top 64 projects and has identified the 4 recommended projects for this year's program totalling 30.7 lane km. Public Works Staff have compared the priority rating result with the recent road condition field review and existing capital program and have concluded that the priority rating is consistent with this most recent field assessment. The highest ranking candidate was Main St. West, which has been addressed through previous actions.

The \$5.9M allocated funding represents 14.9% of the cost to rehabilitate the 64 identified projects.

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The attached table (Appendix “A”) represents the recommended sections to be included in the 2018 short-term rehabilitation maintenance program. Due to the nature of the rehabilitation strategy and the volume of traffic along these corridors the works are expected to extend service life by up to 10 years. For Burlington Street this work will provide additional flexibility to extend the timing of works in the Capital Budget.

Burlington Street has an overall road asset value of approximately \$62M, this \$3.05M rehabilitation represents a 4.9% renewal investment for this asset. This street is often regarded by the user as a challenging route to travel. Burlington Street is heavily travelled, has the highest number of claims, and is frequently identified for maintenance activities thereby making it an ideal candidate for this program.

It should be noted that treatment identified is considered short term rehabilitation and as such underground repairs will not be addressed as part of this intervention. Any underground needs will be addressed through future rehabilitation efforts.

Staff will also be completing the prioritization analysis on all the sections within the city’s road network. The outcome of this analysis will serve as the basis of discussion with each Ward Councillor for selecting projects to be completed within the \$13.5M allocated for neighbourhood road priorities.

Staff will be following up with each Councillor to select the projects that are anticipated to be programmed in 2019 or 2020. Projects that are candidates for similar resurfacing only work and that do not require additional programming and coordination will be programmed as quickly as possible. Projects requiring reconstruction, reconfiguration or underground work will be inserted in to the programming schedule and identified to council through the capital budget process.

**ALTERNATIVES FOR CONSIDERATION**

Committee can choose not to go forward with these recommendations and this option will not address the rapid deterioration of key road segments resulting in a continued decline of the service level provided.

Committee can choose to direct staff to facilitate the work through a competitive procurement process.

**ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

**Built Environment and Infrastructure**

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**APPENDICES AND SCHEDULES ATTACHED**

Appendix A: Recommended Rehabilitation Project List

Appendix B: Deterioration Curve Diagram

Appendix C: Maps