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**TO:** GENERAL COMMITTEE

**SUBJECT:** SALEM SECONDARY PLAN TRANSPORTATION IMPROVEMENTS MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PHASES 3 AND 4

**WARD:** 7 AND 8

**PREPARED BY AND KEY CONTACT:** A. L. ALMUINA, P.ENG., PROJECT COORDINATOR (EXTENSION #4458)

**SUBMITTED BY:** ROBERT SUTTON, P. Eng.  
DIRECTOR OF ENGINEERING

**GENERAL MANAGER APPROVAL:** R. J. FORWARD, MBA, M.Sc., P. Eng.  
GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** C. LADD  
CHIEF ADMINISTRATIVE OFFICER

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**RECOMMENDED MOTION**

1. That the preferred design alternative for the arterial roadway corridors within the Salem Secondary Plan as assessed in the Municipal Class Environmental Assessment Phases 3 and 4, as outlined in Staff Report ENG008-17, be adopted.
2. That, in accordance with the requirements of the Class Environmental Assessment process, Council approve the Salem Secondary Plan Transportation Improvements Municipal Class Environmental Assessment Phases 3 and 4 and have staff file the Environmental Study Report for public review.
3. That based on the successful conclusion of this Class Environmental Assessment, the Engineering Department proceed with the detailed design of the preferred alternative design for roadways and municipal servicing within the Salem Secondary Plan Study, as presented in this Class Environmental Assessment.
4. That the Director of Legal Services be delegated authority to settle the expropriations or any negotiated agreements in an amount up to the maximum amount budgeted for property acquisition and the City Clerk be authorized to execute all associated and required documents in a form approved by the Director of Legal Services.

**PURPOSE & BACKGROUND**

5. The purpose of this Staff Report is to receive Council endorsement to finalize the Environmental Study Report (ESR) for the Salem Secondary Plan Transportation Improvements Municipal Class Environmental Assessment (Class EA) Phases 3 and 4 and request authority to file the ESR for public review.
6. A Multi-Modal Active Transportation Master Plan (MMATMP) was completed in January 2014 and identified various projects to address growth in the City of Barrie.

7. The MMATMP was conducted in accordance with the Master Plan process as described in the Municipal Engineers Association (MEA) process for the planning and design of municipal infrastructure (dated October 2000, as amended in 2007, 2011 and 2015), and addresses Phases 1 and 2 of the five-phase Municipal Class EA process.
8. All municipal road reconstruction or widening projects in Ontario require approval under the Ontario Environmental Assessment Act (EA Act). MEA Municipal Class EA process streamlines the planning and decision making process for municipal infrastructure with an approved procedure designed to protect the environment. The Class EA process provides a decision-making framework that enables the requirements of the EA Act to be met in an effective manner.
9. The City proceeded with Phases 3 and 4 of the Municipal Class EA process for the Schedule C road widenings and grade separations projects in accordance with the recommendations of the MMATMP.
10. The City of Barrie initiated a Schedule C Municipal Class EA Study to recommend improvements to the roadways within the Salem Secondary Plan Area. The Study Area includes the following:
  - a) Salem Road, Veterans Drive to County Road 27
  - b) Lockhart Road, Highway 400 east limits to Huronia Road, including a grade separated rail crossing
  - c) Essa Road, Mapleview Drive to County Road 27
  - d) Veterans Drive, Salem Road to City Limits
  - e) Huronia Road, Lockhart Road to City Limits
  - f) McKay Road West, County Road 27 to Highway 400 West Limits
  - g) McKay Road East, Highway 400 east Limits to Huronia Road
11. The study area is comprised primarily of rural agricultural land situated in the southern portion of the City of Barrie, bordering the Town of Innisfil.
12. Stantec was retained by the City of Barrie to undertake a Class EA Study for improvements to the roadway sections described above. The study included the review of the existing work already completed as part of the MMATMP and the completion of Phases 3 and 4 of the Class EA process.

## **ANALYSIS**

13. Two alternative designs were considered for these corridors:
  - a) Based on the right of way and cross-section recommendations from the MMATMP
  - b) Widening of the first alternative (per (a)) by an additional 4 m to account for linear Low Impact Design (LID) drainage

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14. Based on the evaluation of alternative design concepts which was presented at Public Information Centre (PIC) #1 and PIC #2, some sections of roadways have modified cross-sections to mitigate potentially significant impacts along the Right-Of-Way (ROW) including impact on existing surrounding land uses and natural heritage features. Typical modifications included: narrowing the painted or raised median to reduce the road footprint, removal or reduction in width of lanes turn lanes and buffer areas.
  15. The preferred alternative design for Salem Road, Essa Road, McKay Road West and Huronia Road includes the following:
    - 27 m ROW
    - 3.5 m travel lanes, 1 in each direction
    - 1.2 m – 4.2 m concrete median, Two-Way-Left-Turn-Lane (TWLTL) or painted median (width of median and type will depend on adjacent land uses and the stormwater management approach)
    - 1.5 m + 0.5 m buffered bike lane (both sides)
    - 0.50 m curb (both sides)
    - 2.9 m boulevard with LIDs (both sides)
    - 2 m sidewalk (both sides)
    - 0.5 m clearance (both sides)
  16. The preferred alternative design for Veterans Drive, McKay Road East, and Lockhart Road includes the following:
    - 34 m ROW
    - 3.5 m travel lanes, 2 in each direction
    - 1.2 m – 4.2 m concrete median, TWLTL or painted median (width of median and type will depend on adjacent land uses and the stormwater management approach)
    - 1.5 m + 0.5 m buffered bike lane (both sides)
    - 0.50 m curb (both sides)
    - 2.9 m boulevard with LIDs (both sides)
    - 2 m sidewalk (both sides)
  17. A copy of the preferred conceptual alternative design of each roadway in the study area is available for review in the Councilors' Lounge, and on the study website at: <http://www.barrie.ca/City%20Hall/environmental-assessment-studies/Pages/Salem-Secondary-Plan-Area.aspx>

18. In the case of Huronia Road and McKay Road East, an interim design is being suggested to 2031 which includes a rural cross-section with two through lanes and paved shoulders (Huronia Road) and four lanes with paved shoulder (McKay Road East). These interim measures provide for minimum road infrastructure required for the first phase of development in the annexation area while respecting funding limitations.
19. Preliminary property requirements have been identified in the preferred alternative design concepts. However, it is important to note that property needs will be confirmed during detailed design to account for drainage, LID, intersection improvements and utility services and other design considerations.

#### Stormwater Management

20. The proposed widening of the roadway sections will alter the drainage patterns within these areas. As a result, a drainage plan to meet drainage design criteria was developed within the study limits and includes the following key characteristics:
  - Consideration of centralized and linear LID measures such as infiltration rock trenches (linear and centralized); infiltration chambers (linear and centralized); Perforated pipe systems.
  - Stormwater will be pre-treated with catch basin inserts or oil/grit separators.
  - To control flooding during larger storm events, dry ponds and oversized pipes/storm chambers are recommended.
  - Potential connections to Salem's Subwatershed Impact Study landowners' stormwater management ponds where appropriate.
  - LID solutions will be confirmed during Detailed Design.
  - All culvert crossing locations within the study area are recommended to be maintained to ensure that existing external conveyance is maintained.

#### Water and Wastewater

##### **Conceptual Design of Trunk Watermain**

21. As part of the study, a conceptual design study was undertaken using the City of Barrie Design Guidelines in conjunction with the findings and recommendations documented in the City of Barrie Water Storage and Distribution Master Plan (WSDMP) for a trunk watermain. The WSDMP identified a number of system upgrades and expansions within the Salem Secondary Plan Area. The conceptual watermain sections have been designed in accordance with the City of Barrie Water Transmission and Distribution Policies and Design Guidelines with additional guidance from the Ministry of the Environment and Climate Change (MOECC) requirements for the separation of sewers and watermains. These system upgrades included the following projects which form part of the Salem Class EA Study:
  - 500 mm north-south main on Veterans Drive from Salem Road to McKay Road West
  - 400 mm east-west main on McKay Road from McKay study boundary to east of Street I
  - 400 mm east-west main on McKay Road from east limit of Interchange to Street K

- 500 mm east-west main on Salem Road from Veterans to Essa Road
- 400 mm main on Essa Road from Maplevue Drive West to the Phase 1 Boundary south of Salem Road
- 750 mm feedermain on Lockhart Road from Saunders to Huronia
- 750 mm feedermain on Huronia Road from PS3 to Lockhart Road

### **Conceptual Design of Trunk Sanitary Sewer**

22. A conceptual design for a trunk sanitary sewer has been developed in accordance with the City of Barrie Sanitary Sewer and Collection Systems Policies and Design Guidelines with additional guidance from the MOECC Design Guide for Sewage Works.
23. The trunk sanitary sewer design is based on the Wastewater Collection Master Plan (October 2013) prepared by AMEC Environment & Infrastructure.
24. The proposed trunk sanitary sewer improvements for the Salem Class EA study include:
  - Huronia Road from Lockhart Road to Municipal Boundary
  - McKay Road from Huronia Road to east limits of McKay Interchange
  - McKay Road from the west limits of the McKay Interchange to Street F

### Public Consultation

25. The points of public contact as required under the Class EA process have been as follows to date:
  - a) Notice of Commencement and PIC #1, - September 22, 2016
  - b) PIC #2, - April 6, 2017
26. In addition, meetings were held with a wide variety of stakeholders throughout the Class EA process. The purpose of the meetings was twofold: first, to keep the various groups informed of the progress and second, to involve them in the development of the preferred alternative designs. The stakeholders with whom meetings were held included:
  - a) Lake Simcoe Region Conservation Authority;
  - b) Nottawasaga Valley Conservation Authority;
  - c) Individual Property owners where the impacts of the proposed road widening could have a significant effect on property;
  - d) County of Simcoe;
  - e) Town of Innisfil; and
  - f) Landowners and Developers: landowner/developer groups, agents and consultants.

27. Responses were provided to all questions and concerns received at and following the public meetings and compiled in the ESR. There were no comments of major concern with regards to these projects.

### **ENVIRONMENTAL MATTERS**

28. This project has followed the guidelines for a Municipal Class EA, and physical, natural, social, cultural/heritage and economic environmental matters have been considered in the development of the recommendations. The ESR discusses how environmental matters have been considered in the development of the recommended preferred design alternative. The evaluation process considered criteria for natural, social, cultural/heritage and economic environmental matters and physical environment criteria such as traffic, pedestrians, cyclists, transit, property, noise, utilities, municipal services and driveway grades/operations.

### **ALTERNATIVE**

29. The following alternative is available for consideration by General Committee:

**Alternative #1** General Committee could alter the proposed recommendation by selecting another design alternative.

This Alternative is not recommended because the preferred design alternative provides for transportation improvements which minimize the effects to the physical, natural, social, cultural/heritage and economic (financial) environments.

### **FINANCIAL**

30. The costs associated with the next steps of development of the transportation improvements are incorporated in the 2017-2021 Capital Plan and 2022-2026 Capital Outlook.

### **LINKAGE TO 2014 – 2018 COUNCIL STRATEGIC PLAN**

31. The recommendation(s) included in this Staff Report support the following goals identified in the 2014-2018 Strategic Plan:

- Responsible Spending
- Well Planned Transportation

32. The planned transportation improvements are being implemented based on the need to service Barrie's Annexed Lands and growth to 2031.