
TO: GENERAL COMMITTEE

SUBJECT: HEWITT'S SECONDARY PLAN TRANSPORTATION IMPROVEMENTS
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PHASES 3 AND 4

WARD: 9 AND 10

**PREPARED BY AND
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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

RECOMMENDED MOTION

1. That the Preferred Design Alternative for the arterial roadway corridors within the Hewitt's Secondary Plan as assessed in the Municipal Class Environmental Assessment Phases 3 and 4, be adopted as outlined in Staff Report ENG009-17.
2. That, in accordance with the requirements of the Class Environmental Assessment process, Council endorse the Hewitt's Secondary Plan Transportation Improvements Municipal Class Environmental Assessment Phases 3 and 4 and have staff file the Environmental Study Report (ESR) 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 Hewitt's 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 Hewitt's 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). The Municipal Engineers Association (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 Hewitt's Secondary Plan Area. The Study Area includes the following:
 - a) Mapleview Drive East from Huronia Road to 20th Sideroad
 - b) Lockhart Road from Huronia Road to just east of Collector 11
 - c) Yonge Street from Lockhart Road to Mapleview Drive East
 - d) Big Bay Point Road from just east of Prince William Way to just west of 20th Sideroad
 - e) Grade separations at Metrolinx's Barrie Corridor at Mapleview Drive East and Lockhart Road to accommodate growth to 2051
11. The Study Area is comprised primarily of rural agricultural land in the southern portion of the City of Barrie bordering the Town of Innisfil.
12. Hatch Corporation (Hatch) 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. Various alternative design concepts were prepared for each of the arterial roadways in the Hewitt's Secondary Plan Area, as well as the two grade separations on Mapleview Drive East and Lockhart Road and presented at Public Information Centre (PIC) #1.
14. Based on the evaluation of alternative design concepts as presented at PIC #1 and PIC #2, some sections of roadways have been modified to reflect feedback received from the public and stakeholders. 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. In the case of the Lockhart Road grade separation, the study is recommending its deferral pending details from Metrolinx on its corridor improvements.
15. Tables 1 to 6 summarize the preferred alternative designs for the Hewitt's Secondary Plan Study Area as recommend in the ESR.

16. 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/Hewitt-Secondary-Plan-Area-Transportation-Improvements.aspx>
17. 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, Low Impact Design (LID), intersection improvements and utility services and other design considerations.

Table 1 – Mapleview Drive East - Summary of Preferred Alternative Design

Section	Description	Additional Comments
Huronia Road to Country Lane	41 m ROW with 6-lanes of travel plus a centre median (painted or raised, depending on adjacent land uses), a sidewalk on the south side and a multi-use trail on the north side.	The need to meet the 41 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Country Lane to Madelaine Drive	41 m ROW with 6-lanes of travel plus a centre median (painted or raised, depending on adjacent land uses), a sidewalk on the south side and a multi-use trail on the north side.	The need to meet the 41 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Madelaine Drive to Yonge Street	34 m ROW with 4-lanes of travel plus a two-way left turn lane, a sidewalk on the south side and a multi-use trail on the north side.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Yonge Street to Prince William Way	34 m ROW with 4-lanes of travel plus turn lanes at intersections, a sidewalk on the south side and a multi-use trail on the north side.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Prince William Way to 20 Sideroad	27 m ROW with 2-lanes of travel a two-way left-turn lane, a sidewalk on the south side and a multi-use trail on the north side.	The need to meet the 27 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.

Table 2 – Summary of Preferred Alternative Design for Maplevue Drive East at Metrolinx’s Barrie Corridor

Section	Description	Additional Comments
Underpass of Maplevue Drive East at Barrie GO Rail Corridor	<p>Proposed rail over road grade separation.</p> <p>46 m ROW, 6-lane cross-section with a raised median, on-street buffered bike lanes and sidewalks on both sides.</p>	<p>It is proposed to design and build the underpass at a 7-lane cross-section as this segment of Maplevue Drive East has the potential for a 7-lane cross-section by 2051 based on preliminary analysis of the MMATMP.</p> <p>The roadway alignment was shifted north to avoid the St. Paul’s Church and Cemetery.</p> <p>The northerly shift required some modifications to the cross sections to accommodate the approved Scotiabank site at the northeast corner of Yonge Street and Maplevue Drive East.</p> <p>The St. Paul’s Sub-station (Alectra) requires some additional functional planning to address impacts on the site driveway.</p>

Table 3 – Lockhart Road - Summary of Preferred Alternative Design

Section	Description	Additional Comments
Huronia Road to 600 m East of Huronia Road	34 m ROW with 4-lanes of travel, a multi-use trail and urban section (curb) on the north side and rural section (ditch) on the south side.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
600 m East of Huronia Road to Yonge Street	34 m ROW with 4-lanes of travel, a multi-use trail and urban section (curb) on the north side and rural section (ditch) on the south side.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Yonge Street to Prince William Way	27 m ROW with 2-lanes of travel plus a centre median (painted or raised, depending on adjacent land uses), on-road buffered bike lanes, a multi-use trail and urban section (curb) on the north side and rural section (ditch) on the south side.	A 34 m ROW with 4-lanes of travel, a sidewalk on the north side was presented at the second PIC. Due to the uncertainties of the timing for the Metrolinx double tracking of the railway corridor as well as the impacts on existing residential properties, it is proposed to have the recommended interim design until there is more certainty with the area transportation improvements. However, it is still recommended the City protect for the 34 m ROW alignment until the grade separation issues are resolved.
Prince William Way to Phase 1 Boundary	27 m ROW with 2-lanes of travel plus a two-way left turn lane, a multi-use trail and urban section (curb) on the north side and rural section (ditch) on the south side.	

Table 4 – Yonge Street - Summary of Preferred Alternative Design

Section	Description	Additional Comments
Lockhart Road to Mapleview Drive East	34 m ROW with 4-lanes of travel, plus a centre median (painted or raised, depending on adjacent land uses), on-street buffered bike lanes, a sidewalk on the north and south sides.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.

Table 5 – Lockhart Road Grade Separation - Summary of Preferred Alternative Design

Section	Description	Additional Comments
Lockhart Road at Barrie GO Rail Corridor	A grade separation is not recommended at this time due to the uncertainty of the Metrolinx Service Improvement schedule. An at-grade crossing with enhanced safety features is recommended.	A grade separation was presented at the second PIC. Due to the uncertainties of the timing for the Metrolinx double tracking of the railway corridor as well as the impacts on existing residential properties, it is proposed not to grade separate Lockhart Road at this time and to provide an enhanced level of control at the existing at-grade crossing.

Table 6 – Big Bay Point Road - Summary of Preferred Alternative Design

Section	Description	Additional Comments
City Boundary to Collector 11	34 m ROW with 4-lanes of travel, plus a two-way left turn lane, or painted median as required by adjacent land uses, a multi-use trail on the south side.	The need to meet the 34 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas.
Collector 11 to Phase 1 Boundary	27 m ROW with 2-lanes of travel, plus a two-way left-turn lane, a multi-use trail on the south side.	The need to meet the 27 m ROW standard was adjusted at select locations to avoid impacts on existing residential areas

Stormwater Management

18. The proposed widening of the four (4) 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:
- Catch basins to be spaced and located along urbanized road side curbs to collect runoff from the road ROW catchments as per City of Barrie standards.
 - Drainage from the major external catchments are to be conveyed via existing culvert crossing locations or handled within future proposed stormwater management facilities.
 - Proposed minor system storm sewers are to convey runoff to outlet locations at proposed outlet locations, which include culverts, low points, and/or bridges flowing into Oil/Grit Separator (OGS) units and/or grass swales (where property is available) prior to discharging into Hewitt's Creek and Lover's Creeks.
 - Major system drainage (greater than 5-year storm events) will flow via the profile and fall of the road to proposed low points within the road profile. These low points are typically featured at culvert crossing locations, eventually discharging to either Hewitt's Creek and/or Lover's Creek tributary/main branches.

- All culvert crossing locations within the Study Area are recommended to be maintained to ensure that existing external conveyance is maintained. Although it should be noted that the future developments (documented in the RJ Burnside, 2016 Subwatershed Impact Study) will treat and handle all flows within their areas, once properly treated and handled, discharging to Lover's and Hewitt's Creek Subwatersheds.
- Potential connections to Hewitt's Creek SIS landowners' Storm Water Management ponds where appropriate.

Water and Wastewater

Conceptual Design of Trunk Watermain

19. 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 Hewitt's 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 Hewitt's Class EA Study:
 - 400 mm east-west feedermain on Big Bay Point Road to east limit of the Study Area (STA 0+000 to STA 0+326).
 - 750 mm main on Mapleview Drive from Country Lane (STA. 0+775) to Yonge Street (STA. 2+920).
 - 600 mm main on Mapleview Drive from Yonge Street (STA. 2+920) to Royal Jubilee Drive (STA. 3+863).

Conceptual Design of Trunk Sanitary Sewer

20. 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.
21. The trunk sanitary sewer alignment generally follows the centerline of Mapleview Drive.

Consultation

22. The points of public contact as required under the Municipal 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
23. Responses were provided to all comments received through the public meetings and compiled in the ESR.

24. In addition, meetings were held with a wide variety of stakeholders throughout the 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) Alectra;
 - d) Individual Property owners where the impacts of the proposed road widening could have a significant effect on property;
 - e) County of Simcoe;
 - f) Town of Innisfil; and
 - g) Landowners and Developers: landowner/developer groups, agents and consultants.

ENVIRONMENTAL MATTERS

25. 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

26. 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

27. 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

28. The recommendation(s) included in this Staff Report support the following goals identified in the 2014-2018 Strategic Plan:
- Responsible Spending
 - Well Planned Transportation
29. The planned transportation improvements are being implemented based on the need to service Barrie's Annexed Lands and growth to 2031.