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**TO:** GENERAL COMMITTEE


**SUBJECT:** SUNNIDALE ROAD – HIGHWAY 400 TRANSMISSION WATERMAIN CROSSING MUNICIPAL CLASS EA, SCHEDULE B

**WARD:** 2 and 4

**PREPARED BY AND KEY CONTACT:** D. JAMES, P. Eng.  
SENIOR PROJECT ENGINEER (Ext. 4444)  

**SUBMITTED BY:** J. WESTON, M.A.Sc., P. Eng., PMP  
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 Municipal Class Environmental Assessment for Sunnidale Road – Highway 400 Transmission Watermain Class EA be adopted as outlined in Staff Report ENG001-13.
2. That, in accordance with the requirements of the Class EA process, the Engineering Department publishes a Notice of Completion for the Sunnidale Road – Highway 400 Transmission Watermain Environmental Assessment Document.
3. That when the property owners are ready to sell their properties, staff report back to General Committee for approval to purchase the properties and to obtain the required funding.
4. That staff in the Legal Services Department negotiate the proposed property acquisitions necessary for the Sunnidale Road Transmission Watermain crossing of Highway 400 as identified in Phase 2 of the Municipal Class EA Preferred Design Alternative, and the City Clerk be delegated the authority to execute conditional Agreements of Purchase and Sale, subject to Council approval for the purpose of acquiring the required land.
5. That other capital projects along the Water Distribution Zone 1 and Zone 2 North boundary be considered as part of the development of the 2014 Capital Plan.

**PURPOSE & BACKGROUND**

6. Staff Report ENG001-13 (see copy in Appendix A) regarding the Sunnidale Road – Highway 400 Transmission Watermain Crossing Municipal Class EA, Schedule B was submitted to General Committee on February 25, 2013.
7. On March 4, 2013 Council passed Motion 13-G-044 which states:  
  
"That Staff Report ENG001-13 concerning the Sunnidale Road – Highway 400 Transmission Watermain Crossing Municipal Class EA, Schedule B (Wards 2 and 4) be referred back to staff in the Engineering Department for further consultation with the residents of the impacted properties associated with the preferred alternative route and report back to General Committee."

8. There are two (2) properties that will have to be acquired to construct this alternative. Staff have talked several times with the owner of 79 Sunnidale Road, the property on the north side of Highway 400. This owner is not opposed to the project but has indicated that he would prefer the project timing to be finalized as soon as possible.
9. On Tuesday, May 21, 2013 the General Manger of Infrastructure and Growth Management and Engineering Staff met with the owner of 53 Sunnidale Road on the south side of Highway 400. This owner does not want to sell the property and expressed opposition to the project if it forces her out of her home before she is ready to leave.
10. Meetings were held with the affected property owners on September 10th and 11th, 2013. Both indicated support for the recommended motions.

### **ANALYSIS**

11. The water system modelling was reviewed at it was re-confirmed that the proposed transmission watermain Highway 400 crossing is an essential element of the system with regard to the Zone 2 / Zone 2N boundary.
12. If the Highway 400 watermain crossing at Sunnidale Road is to be delayed there are other projects along the Water Distribution Zone 1 / Zone 2 North water zone boundary that will be recommended to be advanced in the Capital Plan to minimize water pressure issues along the zone boundary. This would include the Dunlop/Mulcaster/Poyntz and the Poyntz/Berczy/Codrington Pump Station transmission watermains. Engineering will recommend these projects be included in the 2014 Capital Plan.
13. The Ministry of Transportation (MTO) has been extensively consulted and is in support of city staff proceeding to the City of Barrie Council with the preferred design alternative recommendation.

### **ENVIRONMENTAL MATTERS**

14. This project has followed the guidelines for a Municipal Class Environmental Assessment, and physical, natural, social, cultural and economic environmental matters have been considered in the development of the recommendations. The Environmental Assessment Document discusses how environmental matters have been considered in the development of the recommended alternative. The ranking and scoring process considered all natural, social and economic environmental matters, property, etc.

### **ALTERNATIVES**

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

**Alternative #1** General Committee could alter the proposed recommendations by selecting another Design Alternative.

This is not recommended because the Preferred Design Alternative provides for water system improvements which minimize the effects to the physical, natural, social, cultural and economic (financial) environments.

### **FINANCIAL**

16. The 2012 Capital Plan contained \$200,000 for property purchase. As the property purchases are not imminent this funding will be returned in the fall 2013 Capital Status Report. Funds have not been budgeted for the Class EA Process; design funds have been expended to complete the EA. Additional design funds will be requested in the fall 2013 Capital Status Report.

17. The MTO has identified the need for these properties for future highway widening. Staff are in discussion with the MTO to potentially cost share the acquisition.

**LINKAGE TO 2010 – 2014 COUNCIL STRATEGIC PLAN**

18. The recommendations included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
- Manage Growth and Protect the Environment
19. This Class EA Study for the Sunnidale Road transmission watermain Highway 400 crossing demonstrates good water system planning. A competent water system is critical in planning for, and accommodating, future growth in the City of Barrie.

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18. The recommendations included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
  - Manage Growth and Protect the Environment
  
19. This Class EA Study for the Sunnidale Road transmission watermain Highway 400 crossing demonstrates good water system planning. A competent water system is critical in planning for, and accommodating, future growth in the City of Barrie.

APPENDIX "A"

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**TO:** GENERAL COMMITTEE

**SUBJECT:** SUNNIDALE ROAD – HIGHWAY 400 TRANSMISSION WATERMAIN CROSSING MUNICIPAL CLASS EA, SCHEDULE B

**PREPARED BY AND KEY CONTACT:** D. M. JAMES, P. Eng.  
MANAGER OF DESIGN AND CONSTRUCTION (ACTING) (Ext. 4444)

**SUBMITTED BY:** R. S. KAHLE, M. Eng., P. Eng.  
DIRECTOR OF ENGINEERING

**GENERAL MANAGER APPROVAL:** R. J. FORWARD, MBA, M.Sc., P. Eng.,  
GENERAL MANAGER OF INFRASTRUCTURE, DEVELOPMENT & CULTURE

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

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RECOMMENDED MOTION

1. That the Preferred Design Alternative for the Municipal Class Environmental Assessment for Sunnidale Road – Highway 400 Transmission Watermain Class EA be adopted as outlined in Staff Report ENG001-13.
2. That, in accordance with the requirements of the Class EA process, the Engineering Department publishes a Notice of Completion for the Sunnidale Road – Highway 400 Transmission Watermain Environmental Assessment Document.
3. That staff in the Legal Services Department complete the proposed property acquisitions necessary for the Sunnidale Road Transmission Watermain crossing of Highway 400 as identified in Phase 2 of the Municipal Class EA Preferred Design Alternative, and the City Clerk be delegated the authority to execute Agreements of Purchase and Sale for the purpose of acquiring the required land.
4. That the Director of Legal Services be authorized to commence expropriation proceedings against the properties identified in the Sunnidale Road Transmission Watermain crossing of Highway 400 Municipal Class EA where negotiated agreements are not in place by September 1, 2013.
5. That staff be directed to serve and publish the "Notice of Application for Approval to Expropriate" and to forward any requests for inquiries received, pursuant to the "Notice of Application for Approval to Expropriate" to the Chief Inquiring Officer and the Chief Inquiring Officer be requested to report to Council with respect to any such request.
6. That the Director of Legal Services be delegated the authority to settle the expropriation amounts and that the Mayor and the City Clerk be authorized to execute all associated and required documents to the satisfaction of Director of Legal Services.
7. That the additional funding of \$600,000 required for the property acquisitions for the Sunnidale Road Transmission Watermain project be funded from the Water Reserve Fund (12-05-0580).

PURPOSE & BACKGROUND

8. This staff report presents the recommended design alternative to address existing water transmission issues within Pressure Zone 2 North of the water distribution system and to facilitate the optimal operation of the Sunnidale Park Reservoir that is currently under construction.

9. In 2009 the City of Barrie completed a Schedule B Class Environmental Assessment for the Proposed Zone 2 North System Improvements. Within the study a transmission watermain from Letitia Street to Wellington Street was recommended to be installed to convey water from the wells along the lakeshore to the Sunnidale Park Reservoir.
10. The existing distribution watermain on Sunnidale Road crosses Highway 400 within the road bridge structure. During preliminary design it was brought forward by the MTO that the proposed transmission watermain could not be located within the Highway 400 bridge structure and must be located a minimum of 30 m away from the existing bridge pushing the highway crossing alignment outside the current right-of-way limits of Sunnidale Road. As a result a Class EA was completed to determine the preferred route for the transmission watermain.
11. The details of the Municipal Class Environmental Assessment (Class EA) process are provided in Appendix "A" including a description of the various alternate routes considered. Design alternatives were evaluated and modified to address the concerns from businesses and property owners and mitigate any impacts resulting from the proposed alternatives.
12. The Preferred Alternative impacts two properties, 53 and 79 Sunnidale Road. The properties will have to be purchased so that watermain casing can be installed between the future MTO right of way limits. It is to be noted that the MTO's Transportation Environmental Study Report (TESR) for Highway 400 widening indentify these properties are to be purchased.

#### ANALYSIS

13. The Sunnidale Road – Highway 400 Transmission Watermain Environmental Assessment Document presents the recommended alternative route. Alternative Route 3 – Installation along Sunnidale Road from Wellington Street to Letitia Street crossing Highway 400 on the park side of Sunnidale Road was selected as the Preferred Alternative Solution. The Preferred Alternative is shown in Appendix "B". This route meets the request by the MTO for future bridge offset as well as future right-of-way widening of Highway 400 as per their requirement and is consistent with the Ministry of Transportations (MTO) Transportation Environmental Study Report (TESR) completed in 2004.
14. Comments received throughout the Class EA process, along with the Engineering Department's responses to the comments, are summarized in the Environmental Assessment Document which is available in the Councillors' Lounge for review and major concerns and responses to those concerns are summarized in Appendix "C". Areas of major concern include:
  - o Damage to old growth trees.
  - o Loss of property.
  - o Construction Impacts.
15. The Preferred Design Alternative has property impacts. The MTO's requirement for the casing to extend beyond the future right of way limit combined with their requirement for a minimum depth of 5 metres under the Highway results in jack and bore sending and receiving pits on private property at depths approaching 15 m (50 feet). This will require the purchase of the properties on the park side of Sunnidale Road namely 53 and 79 Sunnidale Road. The property owners have been contacted and invited to meet with staff before the Staff Report was presented to General Committee.
16. The MTO has been extensively consulted and is in support of the City of Barrie proceeding to the City of Barrie Council with the preferred design alternative recommendation.

17. Fourteen (14) people signed the attendance register at the PIC. Fourteen (14) comment sheets/responses were received pertaining to this Class EA. The comment sheet requested that the alternatives be ranked. Preferred rankings were received on 10 comment sheets and the results are as follows:
- |               |     |                                 |
|---------------|-----|---------------------------------|
| Alternative 1 | 10% | ranked as preferred alternative |
| Alternative 2 | 0%  | ranked as preferred alternative |
| Alternative 3 | 30% | ranked as preferred alternative |
| Alternative 4 | 30% | ranked as preferred alternative |
| Alternative 5 | 10% | ranked as preferred alternative |
| Alternative 6 | 20% | ranked as preferred alternative |
18. The preliminary cost estimate for Alternative 4, the Preferred Design Alternative, is \$ 2,522,500 including design, property acquisition, watermain construction, jack and bore casing installation under the highway, construction supervision and administration and geotechnical engineering. The MTO mandates that piping installed under the highway be installed without using open cutting and pressure pipes, such as watermains, must be installed inside a casing. These conditions result in very deep sending and receiving pits for the drilling operation.
19. The 2007 Business Plan included funding for the preliminary design. It was during this activity that MTO's denial of permission to put the transmission watermain in the bridge and requirement for the casing to extend to the limits of the future highway right of way limits necessitated a Class EA. Funding for the Class EA and detail design was included in the 2010 Capital Plan. In 2012 additional funds were included for property issues. Construction funding was not included in the 2013 Capital Plan.
20. Staff are recommending that the Preferred Design Alternative be adopted by Council at this time, in order that a Notice of Completion can be filed as required as part of the Class EA process. The Notice of Completion is the final point in the public process where the public can express their concerns if they feel issues raised through the Class EA process have not been sufficiently addressed. If there are no Part II Requests received, the Class EA process can be considered complete and the City can proceed with the implementation of the Preferred Design Alternative.

#### **ENVIRONMENTAL MATTERS**

21. This project has followed the guidelines for a Municipal Class Environmental Assessment, and physical, natural, social, cultural and economic environmental matters have been considered in the development of the recommendations. The Environmental Assessment Document discusses how environmental matters have been considered in the development of the recommended alternative. The ranking and scoring process considered all natural, social and economic environmental matters, property, etc.

#### **ALTERNATIVES**

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

**Alternative #1** General Committee could alter the proposed recommendations by selecting another Design Alternative.

This is not recommended because the Preferred Design Alternative provides for water system improvements which minimize the effects to the physical, natural, social, cultural and economic (financial) environments.

**FINANCIAL**

23. The 2012 Capital Plans contained \$200,000 for property purchase. This was based on an assumption that the watermain could be installed on easements. The current estimate for purchase of the two (2) properties is \$800,000. The balance is requested from the Water Reserve Fund (12-05-0580). These properties will eventually be required by the MTO to accommodate the future widening of Highway 400. At this time the proceeds of the sale would be returned to the same account.
24. The MTO have identified the need for these properties. Staff are in discussion with the MTO to potentially cost share the acquisition.

**LINKAGE TO 2010 – 2014 COUNCIL STRATEGIC PLAN**

25. The recommendations included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
  - Manage Growth and Protect the Environment
26. This Class EA Study for the Sunnidale transmission watermain Highway 400 crossing demonstrates good water system planning. A competent water system is critical in planning for, and accommodating, future growth in the City of Barrie.



**APPENDIX "A" – Class EA Background**

The descriptions of the various alternate routes considered for the Sunnidale Road Transmission watermain across Highway 400 from Letitia Street to Wellington Street are as follows:

**Alternative 1: Existing Conditions**

Alternative 1 represents the "Do Nothing" scenario. This alternative provides a benchmark to gauge the environmental effect of not implementing changes to the existing water distribution system.

**Alternative 2: Route 1 – South Side of Sunnidale Road**

Route 1 falls generally within the Sunnidale Road right-of-way with the exception of the crossing of Highway 400. The route requires an easement to the south west side of Sunnidale Road crossing Highway 400 then an easement back out to Sunnidale Road with the watermain continuing down Sunnidale Road to Wellington Street.

**Alternative 3: Route 2 – South Side of Sunnidale Road Connecting along Eccles Street North**

Route 2 is similar to Route 1 on the north west side of the highway however, on the south west side of Highway 400 the watermain will follow Eccles Street to Wellington Street then easterly along Wellington Street to the intersection of Wellington Street and Sunnidale Road.

**Alternative 4: Route 3 – North Side of Sunnidale Road**

Route 3 falls generally within the Sunnidale Road right-of-way with the exception of the crossing of Highway 400. The route requires an easement to the north east side of Sunnidale Road crossing Highway 400 and a second easement on the south east side of Sunnidale Road and Highway 400. The watermain will then continue along Sunnidale Road to Wellington Street.

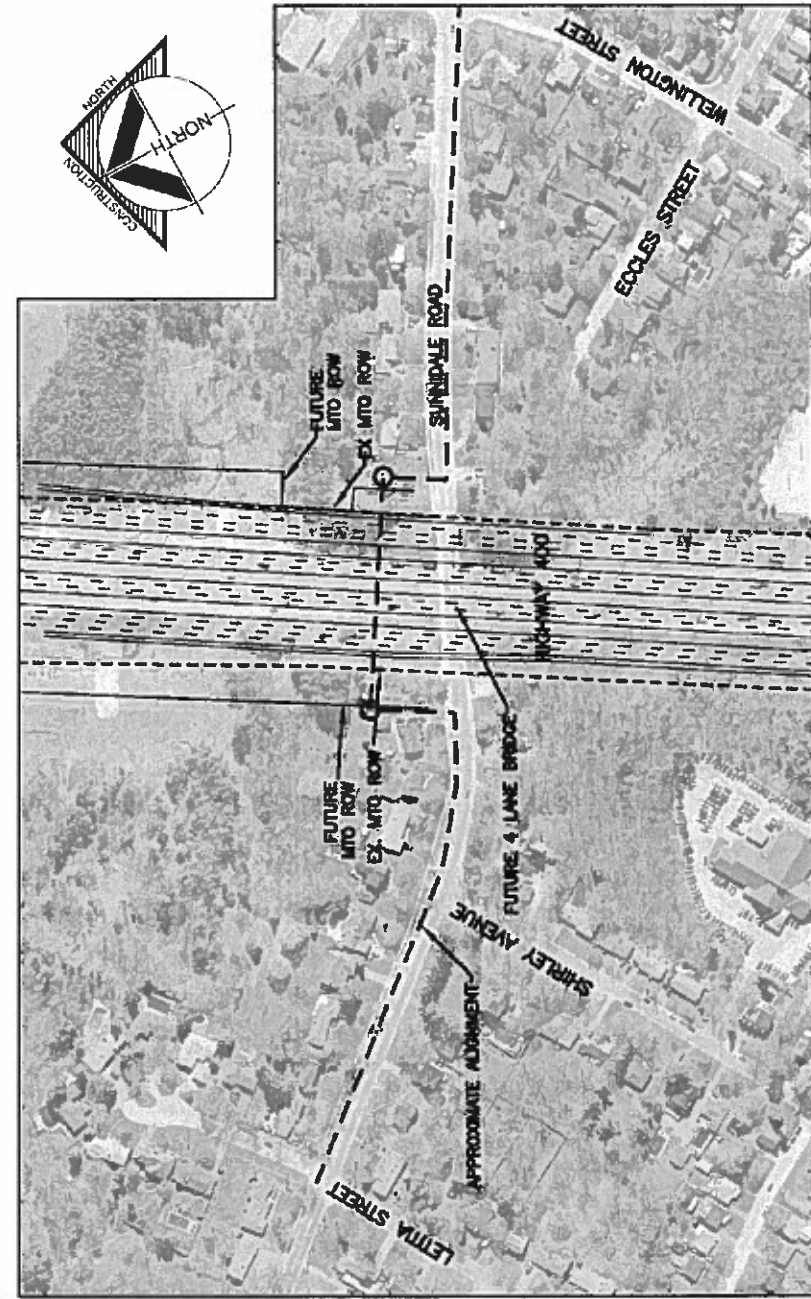
**Alternative 5: Route 4 – South Side of Sunnidale Road Connecting to Wellington Street via a Kidd's Creek Corridor west of Eccles Street**

Route 4 is similar to Route 1 on the north west side of the highway however, on the south west side of the Highway the watermain will follow the creek valley west of Eccles Street to Wellington Street then easterly along Wellington Street to the intersection of Wellington Street and Sunnidale Road.

**Alternative 6: Route 5 – South Side of Sunnidale Road, Shirley Avenue Connecting to Wellington Street West of Route 4**

Route 5 follows Sunnidale Road turns westerly on Shirley Avenue then via easements generally on previously developed land through Highway 400 to Wellington Street then along Wellington Street to the intersection of Sunnidale Road.

APPENDIX "B" – Preferred Design Alternative



**APPENDIX "C" – Summary of Concerns**

Comment	Response
<ul style="list-style-type: none"> <li>Will watermain installation have any effect or changes to the present driveways or grounds of property owners from the bridge area to Wellington Street?</li> </ul>	<ul style="list-style-type: none"> <li>Exact location of watermain has not been selected-if located within boulevard, could have an impact on driveways and grassed areas.</li> <li>Change in grade of driveways and/or boulevards are not expected.</li> </ul>
<ul style="list-style-type: none"> <li>Several heritage properties in this area noted on Barrie's Grand Homes historic walking tour.</li> </ul>	<ul style="list-style-type: none"> <li>The study considers all components and features of the existing area. Being cognizant of mature trees, heritage buildings, and groundwater discharge/recharge areas.</li> <li>The preferred design does not impact heritage buildings</li> </ul>
<ul style="list-style-type: none"> <li>Minimize damage to old growth trees</li> </ul>	<ul style="list-style-type: none"> <li>A variety of construction techniques can be utilized to reduce the impacts to the existing old growth trees. (ie. Trenchless technology)</li> <li>The preferred design does not impact old growth trees</li> </ul>
<ul style="list-style-type: none"> <li>Loss of property and future use</li> </ul>	<ul style="list-style-type: none"> <li>Property acquisition in the form of easements results in little change to the current use of the property. New buildings or additions cannot be placed on the easements</li> <li>The preferred alternative utilizes property that has been identified as impacted by the MTO future improvements</li> </ul>