



BURNSIDE

Final Engineer's Report South Innisfil Creek Drain 2019 Improvement

Meeting to Consider the Report

Wednesday, February 27, 2019

SICD Project Summary

Draft Report:

The Objectives were:

1. Improvements to drain capacity
2. Remove restrictions to the flow
3. Replacement of the Hwy. No. 400 & Reive Boulevard crossings
4. Mitigate flooding in the Market Garden Area
5. Reduce the cost of the proposed work relative to the previous report

Final Report:

- 9 Objectives consistent with the Draft Report;
- 10 Recommendations regarding: extents of the Main Drain and the 4 Branch drains; the proposed improvements; the crossings under Hwy. No. 400 & Reive Blvd.; and the design standards; and
- The *estimated* total project cost is \$5,265,000.00.

Appendices to the Report

Other Documentation and Reports form part of the Appendices:

Appendix C

- Communication and correspondence with the various provincial agencies; MTO, MNRF and NVCA.

Appendix E & F

- The Standard Specifications and Special Provisions.
- Revisions to the Special Provisions can be administered under the Change Orders section of the Report.

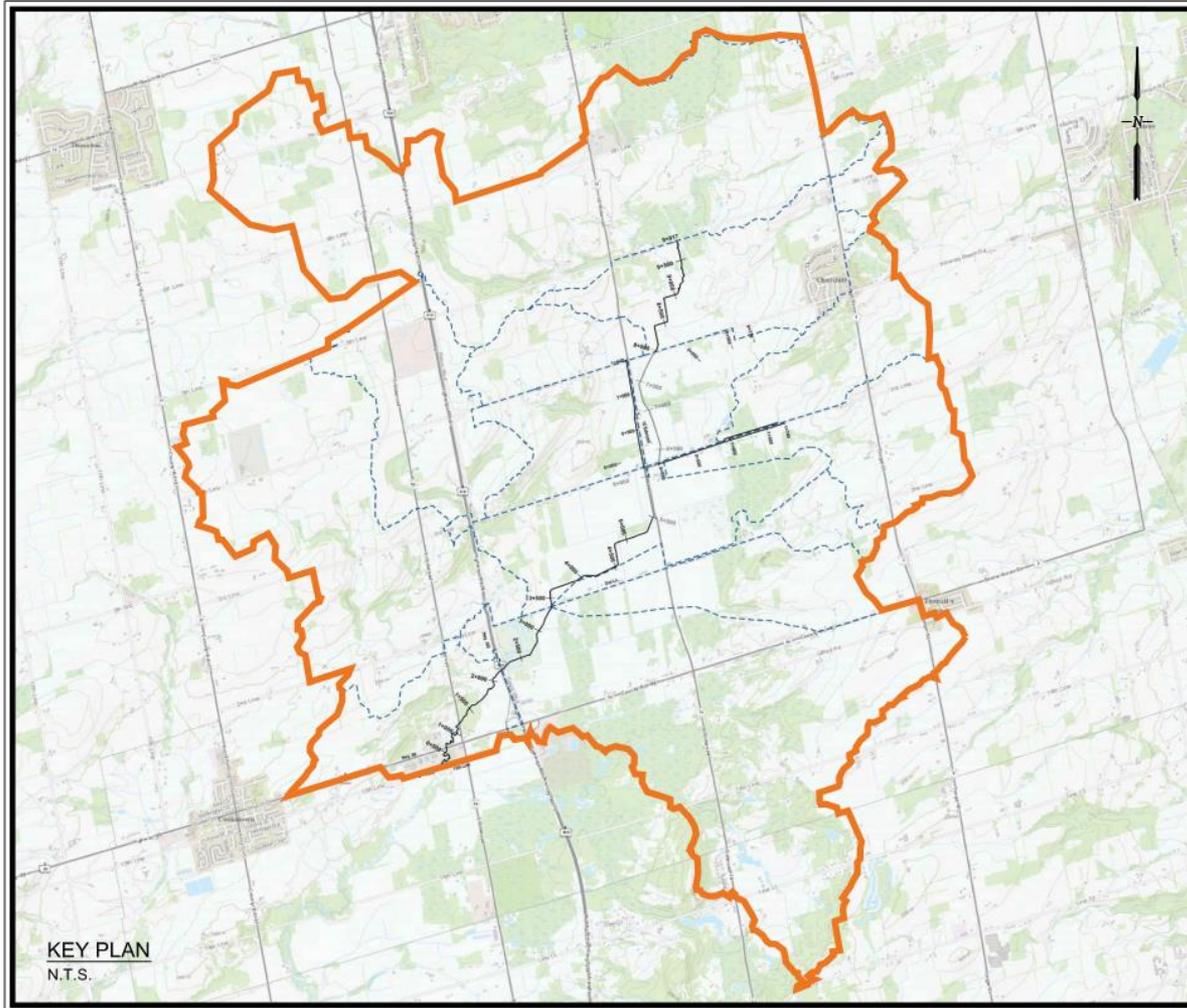
Appendix G

- Communication and correspondence with DFO. Various technical documents relating to the aquatic features and fish habitat.

Appendix H

- The Hydrology Report dated May 17, 2018.
- The Hydraulics Report dated February 1, 2019.

South Innisfil Creek Drain



History of the SICD (1 of 3)

- 1903 SICD created under the M. Galiver Report and subsequent By-Law
- 1954 SIC Branch A and Branch B created under the D. H. Weir Report and subsequent By-Law
- 1956 Current governing Report and By-Law for the SIC prepared by D. H. Weir
- 1963 Hnydczak Report prepared by P. W. Ainley
- 1970s Maintenance work was completed on the drain with a cleanout in 1976
- 2001 & 2002 Maintenance work was undertaken on the 3rd Line Branch Drain and the 10 Sideroad Branch Drain
- 2004 Spot cleanouts were completed on the Main Drain

History of the SICD (2 of 3)

- March 31, 2005 Order issued by the Court of the Drainage Referee of Ontario directing the Town to appoint an engineer under Section 78
- May 9, 2005 The Town appointed Dillon Consulting as the engineer to prepare a preliminary report for SICD
- Feb. 24, 2006 The Preliminary Report was filed by Dillon (and presented to the Referee on July 24, 2006)
- Aug. 31, 2006 The Referee issued a Court Order giving specific direction to Dillon regarding the preparation of a Final Report
- Aug. 15, 2013 The Final Report was filed by Dillon
- Oct. 2, 2013 Council deferred acceptance of the Final Report and made an application to the Referee
- Nov. 4, 2014 Referee issued subsequent Order that the Town was no longer bound by the March 31, 2005 Order and was to retain the services of an engineer to review Dillon's Final Report

History of the SICD (3 of 3)

- Nov. 4, 2014 The Town engaged Burnside to complete a peer review of Dillon's report. The review was completed in 2 phases:
Phase 1 – Aug. 7, 2015
Phase 2 – Nov. 17, 2015
- Early 2016 Dillon declined to undertake further work following the peer review recommendations
Burnside submitted a proposal to prepare a new Final Report
- June 1, 2016 Burnside was appointed to prepare a new final engineer's report under Section 78 of the Act
- Aug. 8, 2018 Burnside presented a Draft Report to the Council
- Feb. 13, 2019 The Final Report for SICD was filed with the Town

Existing Conditions



Lot 6, Concession 1 - Looking Upstream



Lot 6, Concession 1 - Looking Upstream

Existing Conditions



Lot 9, Concession 2 - Market Garden Looking Upstream



Lot 9, Concession 2 - Market Garden Looking Upstream

Existing Conditions



Main Drain 2nd Line Bridge – Looking Upstream



Lot 9, Concession 2 – Market Garden at 2nd Line

Hwy. No. 400 and Reive Blvd.

- The culverts are “perched”; impacts extend to 3rd Line; crossings need to be replaced.
- Extensive communication with MTO and Morrison Hershfield; the Town offered to work cooperatively with MTO.
- As of Aug. 8/18, MTO had not proposed any replacement of their crossings.
- At a Nov. 30/18 meeting, MTO requested modelling for an “interim” solution; MTO reviewed modelling and confirmed agreement with the proposed solution in early 2019.
- The Town is considering either an interim or ultimate solution under Reive Boulevard.



Looking Downstream from Reive Blvd.



Downstream of Hwy. 400 - Looking Upstream

Stakeholder Involvement

- The Public Liaison Committee (PLC) held a total of three meetings.
- A Public Information Centre (PIC) was held on February 23, 2018.
- The Burnside walked the drain with the Drainage Superintendent in April/May/Oct of 2018.
- Communication and discussion with various agencies:
 - Two meetings with DFO
 - Contact and meetings with NVCA
 - Several meetings with MTO
- On-site meetings with 8 landowners; many who own multiple properties.
- Communication with numerous other landowners by email and phone.
- Ongoing discussions with the various agencies.

Design Criteria/Considerations

Consideration was given to both water Quantity and Quality in the drain.

Quantity

- Quantity as per the Design standards and guidelines.
- Each reach of the Main Drain described in Section 8.2.
- In some reaches there is minimal work required/proposed.
- The four branch drains require the equivalent of maintenance.

Quality

- Two Stage Channel to address environmental impacts.
- Sediment control measures – temporary and permanent.
- 3 m wide buffer strip along both sides.
- Enhanced fish habitat and aquatic features.

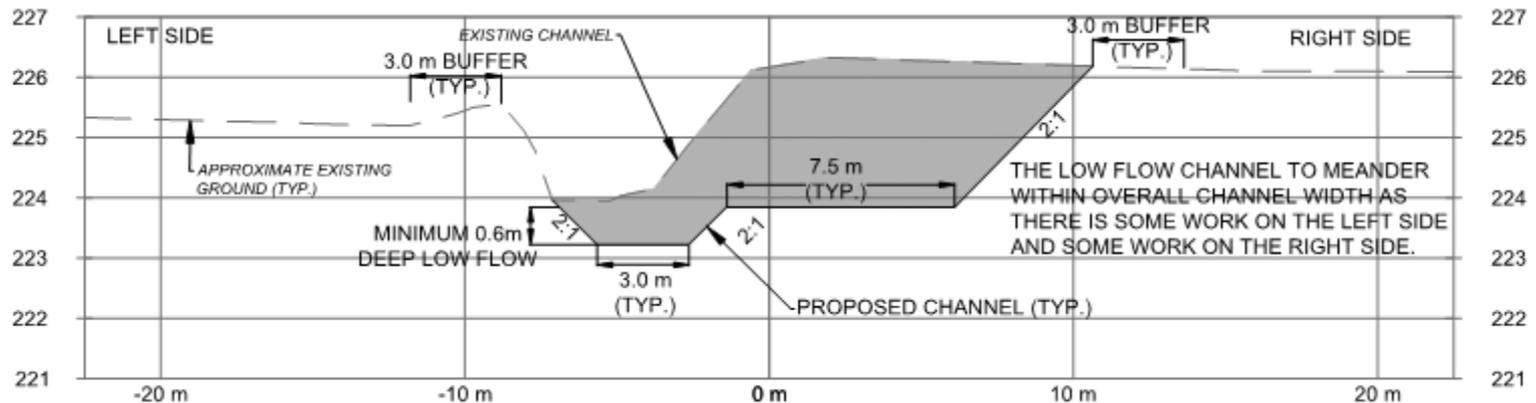
Proposed Work

Main Drain

- Established 10 Sections (reaches); proposed work described in Section 9.
- Proposed work was affected by existing drain capacity, land use, habitat and fisheries.
- The major improvement is a two-stage channel from approx. 5 Sideroad to 3rd Line.
- Working from one side of the drains to minimize disturbing existing vegetation.
- Berms/dykes will not be part of the improved drain.

Branches – Branch 'A', 10 Sideroad, 3rd Line & 3rd Line Spur

- Minimal improvements are proposed.
- Ditch bottom cleanout, spoil treatment and cleanout of the existing culverts.



Proposed Work

Road Crossings

- Hwy. No. 400 crossing by MTO.
- Reive Boulevard crossing by Town.
- Replace Main Drain culverts under 4th Line.
- Replace the 10 Sideroad Branch Drain culvert under 3rd Line.



4th Line Crossing – Main Drain



3rd Line Crossing – 10 Sideroad Branch Drain

Environmental Concerns

DFO

- Application for Authorization submitted.
- Minimizing the proposed work in the sensitive areas.
- Enhancing habitat (riffles, substrate, sediment basins, woody debris).
- Awaiting formal Authorization.



Lot 11 Concession 3

MNRF

- Documentation was submitted for comment and feedback.
- Terrestrial species at risk (2007 ESA) have been identified in/along the drain.
- Birds, Turtles, Bats, Monarch Butterfly, Butternut Tree & Ginseng.
- Looking into drainage works exemption under Section 23.9 of O.Reg.242/08.
- Terrestrial timing windows overlap Aquatic timing windows.



Bobolink

NVCA

- Hydrology & Hydraulics reports submitted, reviewed & comments received.
- Construct two-stage channel & enhance habitat (plant trees, sediment controls).
- An NVCA Permit will be required for the proposed work prior to construction.



Tree Planting

Estimated Costs Summary

	DRAFT REPORT	FINAL REPORT
TOTAL CONSTRUCTION	\$2,264,000	\$2,606,350
INCLUDING:		
MAIN DRAIN - 4TH LINE CULVERT	\$250,000	\$620,000
10 SIDEROAD BRANCH – 3RD LINE CULVERT	\$73,000	\$110,000
ALLOWANCES	\$899,000	\$675,710
ENGINEERING	\$650,000	\$742,000
ADMINISTRATION, FINANCING & NET H.S.T.	\$188,000	\$215,853
SUBTOTAL	\$4,001,000	\$4,239,913
DILLON CONSULTING FEES	\$1,025,000	\$1,025,087
TOTAL ESTIMATED COST	<u>\$5,026,000</u>	<u>\$5,265,000</u>

Final Estimated Net Costs Summary

TOTAL ESTIMATED COST	\$5,265,000	100%
LESS:		
SPECIAL ASSESSMENTS (TOWN OF INNISFIL)	\$820,590	
SPECIAL ASSESSMENTS (MTO)	\$56,000	
TOWN OF INNISFIL ASSESSMENTS (INCLUDING \$835,087 OF DILLON FEES)	\$1,170,953	
TOWN OF BRADFORD-WEST GWILLIMBURY ASSESSMENTS	\$1,493	
SIMCOE COUNTY ASSESSMENTS	\$192,488	
PROVINCE OF ONTARIO ASSESSMENTS	\$104,597	
BALANCE TO BE ASSESSED TO PRIVATE LANDS	\$2,918,879	55%
LESS :		
PROVINCIAL GRANT (1/3 OF ASSESSMENTS ON AGRICULTURAL LANDS)	\$704,356	
ALLOWANCES TO OWNERS	\$675,710	
ESTIMATED TOTAL NET COST TO PRIVATE LANDS	<u>\$1,538,813</u>	29%

Assessments & Allowances

- Calculated in accordance with Sections 21-28 and Sections 29-33 of the Act respectively.
- Explained in Section 11 of the Report.
- Calculations have been carried out following the “Todgham Method”.
- A summary of Allowances & Cost Estimate contained in Appendix A.
- Assessment Schedules contained in Appendix B.
- Assessment details and calculations contained in Appendix D.

Net Assessments

Owner Example (Agricultural)

Total Assessment Appendix B7		\$3,600
Less 1/3 Grant from OMAFRA <i>*On agricultural properties ONLY</i>	$\$3,600 \times 1/3 = (\$1,200)$	
Less Allowances <i>(if applicable)</i> Appendix A1		(\$350)
Net Assessment		<u>\$2,050</u>

Net Assessments

Owner Example (Non-Agricultural)

Total Assessment Appendix B7	\$3,600
Less 1/3 Grant from OMAFRA <i>*On agricultural properties ONLY</i>	(\$0)
Less Allowances <i>(if applicable)</i> Appendix A1	(\$350)
Net Assessment	<u>\$3,250</u>

Next Steps

Now that the Final Report has been filed (Section 41) with the Town and this is the Meeting to Consider, what are the “next steps” in the process under the Act?

1. If the Report is favourable to the Town, give 2 readings to a By-Law adopting it (known as the Provisional By-Law – Section 45).
2. Set the date, place & time and hold the Court of Revision (Section 46).
3. Dispose of any other appeals (Sections 47 to 56 inclusive).
4. Give 3rd Reading to Provisional By-Law (Section 58).
5. Obtain approvals and permits from all agencies (DFO, MNRF, NVCA).
6. Tender the project and proceed with Construction (Section 59).
7. Assess costs (Sections 60 & 61), amend By-Law (Section 62) and process Grant Application (Sections 85 to 90).

Questions?