

**THE CORPORATION OF THE
TOWNSHIP OF EDWARDSBURGH CARDINAL**

BY-LAW NO. 2020-

**“A BY-LAW TO AMEND BY-LAW 2009-53 TO PROVIDE FOR A DRAINAGE
WORKS IN THE TOWNSHIP OF EDWARDSBURGH CARDINAL - THE JAMES
REILLY DEWIT RICHTER MUNICIPAL DRAIN”**

WHEREAS the Corporation of the Township of Edwardsburgh Cardinal enacted By-law 2009-53 on the 4th day of August, 2009 to provide for drainage works on the James Reilly/Dewit-Richter municipal drain in accordance with Section 78 of the Drainage Act; and

WHEREAS additional works have recently been performed on the drain; and

WHEREAS the decision of the Acting Drainage Referee included an order that the Township of Edwardsburgh Cardinal initiate a Section 78 process under the Drainage Act to incorporate the changes to the culvert crossing located on Lot 4 Concession 6 and the relocation of the drain and culvert on Lot 3 Concession 6; and

WHEREAS Council deems it advisable to amend By-law 2009-53 to incorporate the Amendment to the Engineer's Report to the JRDR Municipal Drain;

NOW THEREFORE the Council of the Township of Edwardsburgh/Cardinal enacts as follows:

1. That By-law 2009-53 be amended to include the Amendment to the Engineer's Report for the James Reilly/Dewit-Richter Municipal Drain.
2. That the Amendment to the Engineer's Report for the James Reilly/Dewit-Richter Municipal Drain, as described in Schedule "A", attached hereto and forming part of this by-law, is adopted.
3. That all other provisions of By-law 2009-53 shall remain in force and effect.
4. That this by-law shall come into force and take effect upon passing.

Read a first and second time in open Council this 25 day of November, 2019.

Read a third time and finally passed, signed and sealed in open Council this 24 day of February, 2020.

Mayor

Clerk

Amendment to the
Engineer's Report for the
James Reilly/Dewit-Richter
Municipal Drain

Prepared For:



Prepared By:

Robinson Consultants Inc.
Consulting Engineers

October 15, 2019

Mayor and Members of Council
Township of Edwardsburgh/Cardinal
18 Centre Street
Spencerville, ON K0E 1C0

Attention: **Mr. Dave Grant**
 Director of Operations

Reference: **Amendment to the Engineer's Report**
 James Reilly/Dewit-Richter Municipal Drain
 Our Project No. 18022

Dear Sir:

This Amendment to the Engineer's Report for the James Reilly/Dewit-Richter Municipal Drain, which is respectfully submitted for Council's consideration, was initiated by the Township of Edwardsburgh/Cardinal under Section 78 of the Drainage Act, RSO 1990. The purpose of the report is to incorporate the changes to the crossing on the Bruce property and the relocation of the drain and culvert on the Carmichael property. The amendment is also to review the 2014 repairs and maintenance work in the drain in Lots 6 and 7, Concession 6 of the Township with the view to incorporating the changes in this amendment.

The Amendment to the existing Engineer's Report is to include an assessment schedule for the costs of the amendment report and any additional modification required at the properties.

If you have any questions, please feel free to contact the undersigned at 613-592-6060 extension 104.

Yours very truly,

ROBINSON CONSULTANTS INC.



A.J. Robinson, P.Eng.
Drainage Engineer

AJR:plw

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	History	1
1.2	On-Site Meeting	2
2.0	PURPOSE OF THE AMENDMENT REPORT	2
3.0	MODIFICATIONS INCORPORATED BY THIS AMENDMENT	3
3.1	Bruce Property Lot 4 Concession 6	3
3.2	Carmichael Property Lot 3 Concession 6	3
3.3	Maintenance in Lots 6 and 7 Concession 6	3
4.0	ASSESSMENTS	3
4.1	General	3
4.2	Bruce Property Lot 4 Concession 6	4
4.3	Carmichael Property Lot 3 Concession 6	4
4.4	Assessment for Special Benefit	4
4.5	Maintenance in Lots 6 and 7 Concession 6	5
4.6	Assessment Schedule	7

LIST OF APPENDICES

- Appendix A Plans and Drawings
Appendix B Assessment Schedule

1.0 INTRODUCTION

Robinson Consultants Inc. was appointed by the Township of Edwardsburgh/Cardinal on February 26, 2018 to complete an amendment to the existing Engineer's Report for the James Reilly/Dewit-Richter Municipal Drain, under Section 78 of the Drainage Act to incorporate the changes to the culvert and crossing on the Bruce property and the relocation of the drain and culvert on the Carmichael property. The amendment report is to include an assessment schedule for the costs of the amendment report and any additional modifications required at the two properties. The amendment report is not to deal with the assessment and distribution of costs to date for modifications and related costs incurred since issuance of the Certificate of Completion dated November 28th, 2012 for the initial construction. As directed by the Court of the Drainage Referee.

Subsequently on September 24th, 2018 Robinson Consultants Inc. was appointed to review the 2013 repairs and maintenance work on the James Reilly/Dewit-Richter Municipal Drain in Lot 6, Concession 6. This work was requested in 2013 but was completed in 2014.

1.1 History

The existing Engineer's Report entitled James Reilly/Dewit-Richter Municipal Drain Modifications and Improvements, dated May 2009 completed by Robinson Consultants Inc. was adopted by By-Law No. 2009-53.

Subsequent to completion of construction on the drain, modifications were completed on the farm culvert crossing on the Bruce property in Lot 4, Concession 6 under the direction of the Drainage Superintendent. A portion of the drain on the Carmichael property in Lot 3, Concession 6 was realigned by the property owner without the required amendment to the existing Engineer's Report.

Maintenance was completed on the Dewit-Richter section of the drain in Lots 6 and 7 Concession 6 under the direction of the Drainage Superintendent without the completion of an Engineer's Report for the improvements.

The modifications to the culvert on the Bruce Property and the relocation of a portion of the drain on the Carmichael property were the subject of an appeal to the Ontario Drainage Referee. The decision of Andrew C. Wright, Acting Drainage Referee from the Court of the Drainage Referee, in the case between The Corporation of the Township of Edwardsburgh/Cardinal and Robert Carmichael and Betty Carmichael, David Bruce and Arlene Bruce and Greg Moulton was rendered on May 21, 2018 with a subsequent order with respect to costs issued on August 25, 2018.

The decision of the Acting Drainage Referee included an order that the Township initiate a Section 78 process under the Drainage Act to incorporate the changes to the culvert crossing on the Bruce property and the relocation of the drain and culvert on the Carmichael property.

Subsequent to the initial decision of the Acting Drainage Referee on May 21, 2018 it became clear that a portion of the cost that was initially attributed to the Bruce culvert crossing was in fact for work in Lots 6 and 7 Concession 6. The cost of the maintenance in Lots 6 and 7 Concession 6 was determined to be \$17,145.74.

In an e-mail dated June 7, 2018, Mr. Wright stated "With the concurrence of all parties, I would be prepared to issue a supplementary decision correcting the error. With respect to Mr. Carmichael's e-mail statements that the \$17,145.74 amount was for work done on the Dobbie property, I have no evidence nor jurisdiction to deal with the Dobbie situation."

"I would recommend that the Township seek from Andrew Robinson, P. Eng., his opinion about whether the Dobbie work qualifies as maintenance under section 94 (*should read section 74*) or whether it goes beyond such as to require a further engineer's report under section 78, perhaps an associated special benefit assessment. Even if a section 78 process is initiated, it is for the appointed engineer to assess the expenses"

1.2 On-Site Meeting

Section 78 (4) of the Drainage Act states that all proceeding...under this section shall be the same as on a report for the construction of a drainage works. Section 9 (1) includes the provision for an on-site meeting. It has previously been determined that the on-site meeting does not have to be located on-site. For the modifications to the Bruce culvert crossing and the Carmichael relocation the amendment to the existing Engineer's Report affected only the two property owners in question. The two property owners were participants in the appeal to and decision of the Court of the Drainage Referee and were fully aware of the instructions to the Drainage Engineer with respect to each property. Therefore, this attendance is considered to have fulfilled the requirement for the on-site meeting.

The works undertaken in Lots 6 and 7 Concession 6 have already been completed as maintenance. The purpose of this report with respect to these works is to document them, to determine if the work qualifies as maintenance and to determine the distribution of costs. Since there is no additional changes proposed to the drain an on-site meeting is not required and would serve no benefit.

2.0 PURPOSE OF THE AMENDMENT REPORT

The Township of Edwardsburgh/Cardinal initiated the Amendment to the Engineer's Report under Section 78 of the Drainage Act, RSO 1990, to incorporate modifications that had been undertaken to the Bruce laneway culvert in Lot 4 Concession 6 and the drain relocation on the Carmichael property in Lot 3 Concession 6 as directed by Mr. Andrew Wright, Acting Drainage Referee, and to incorporate the works that were undertaken as maintenance in Lots 6 and 7 Concession 6.

To accommodate these changes, amendments are required to the existing Engineer's Report, entitled "Engineer's Report James Reilly/Dewit-Richter Municipal Drain Modifications and Improvements", May 11, 2009, by Robinson Consultants Inc. With the exception of the changes incorporated by this amendment report all plans, profiles, details, conditions and assessment schedules in the May 2009 report will continue to govern.

3.0 MODIFICATIONS INCORPORATED BY THIS AMENDMENT

3.1 Bruce Property Lot 4 Concession 6

The modification to the existing laneway culvert on the Bruce property in Lot 4 Concession 6, included extending the length of the culvert, adding a by-pass channel and addition of rip rap for erosion control. The location of the modification is shown on Robinson Consultants Inc. Dwg. No.18022-A1. Details of the existing culvert and crossing and the culvert extension, by-pass spillway and additional bank rip-rap are shown on Dwg. L1, Proposed Culvert Layout, dated 22/05/2013, Revision 01 prepared by The Greer Galloway Group Inc.

3.2 Carmichael Property Lot 3 Concession 6

The location of the relocation of the existing municipal drain on the Carmichael property is shown on Robinson Consultants Inc. Dwg. No. 18022-A1. Details of the relocated section of the drain and culvert on the Carmichael property in Lot 3 Concession 6 are included on Robinson Consultants Inc. Dwg. No. 18022-D1, dated October, 2019.

3.3 Maintenance in Lots 6 and 7 Concession 6

The location of the area of maintenance completed on the drain in Lots 6 and 7 Concession 6 is shown on Robinson Consultants Inc. Dwg. No. 18022-A1. Details of the area where maintenance was completed, including addition of armour stone erosion protection and flattening the side slope of the existing drain in Lots 6 and 7 Concession 6 are included on Robinson Consultants Inc. Dwg. 18022-D2, dated October, 2019.

Detailed design plan/profile drawings for the affected portions of the drain for the three areas described are provided in **Appendix A**.

4.0 ASSESSMENTS

4.1 General

In accordance with the decision of the Acting Drainage Referee, costs associated with the appeal to the Referee are dealt with in the decision of the Referee. The costs to be assessed to the Bruce and Carmichael properties associated with this amendment

report are related to the cost of completing the amended report under Section 78 and any additional construction or modifications required to the works previously undertaken on the two properties.

With respect to the maintenance and modifications on the drain in Lots 6 and 7 Concession 6, it is the responsibility of the Drainage Engineer to determine the assessment for the works previously completed and for the related costs associated with this report.

4.2 Bruce Property Lot 4 Concession 6

We have determined that the modifications undertaken on the Bruce property as shown on the drawings in Appendix A are sufficient to meet the requirements of the Drainage Act and the intent of the original Engineer's Report. Therefore, there is no additional construction or improvements required at this time. Costs assessed against this property relate to the field survey completed to confirm that the works have been constructed in accordance with Drawing L1, James Riley/Dewit-Richter Municipal Drain by Greer Galloway Group Inc., dated 22/05/2013, and a portion of the cost associated with the completion of this report. The total assessed cost is to be assessed as a one-time Assessment for Special Benefit in accordance with Section 24 of the Drainage Act R.S.O. 1990. The assessment against the property in Lot 4 Concession 6 is included in Appendix B of this report.

4.3 Carmichael Property Lot 3 Concession 6

We have determined that the modifications undertaken on the Carmichael property as shown on the drawings in Appendix A are sufficient to meet the requirements of the Drainage Act and the intent of the original Engineer's Report. Therefore, there is no additional construction or improvements required at this time. Costs assessed against this property relate to the field survey completed to confirm that the works have been completed in a satisfactory manner, preparation of a plan and profile to document the change to the alignment of the drain and a portion of the cost associated with the completion of this report. Dwg. 18022- D1, dated October, 2019 prepared by Robinson Consultants Inc. shows the relocation of the drain on this property. The total assessed cost is to be assessed as a one-time Assessment for Special Benefit in accordance with Section 24 of the Drainage Act R.S.O. 1990. The assessment against the property in Lot 3 Concession 6 is included in Appendix B of this report.

4.4 Assessment for Special Benefit

Assessment for Special Benefit is mandated by Section 24 of the Drainage Act, RSO 1990 which states "The engineer may assess for special benefit any lands for which special benefits have been provided by the drainage works. A Special Benefit Assessment and/or a Special Assessment is charged against any owner, public utility, agency, authority or municipality for which special consideration was required to accommodate special design consideration or a special feature.

4.5 Maintenance in Lots 6 and 7 Concession 6

In December 2013 the Township of Edwardsburgh/Cardinal received a request for maintenance from the owner of the property in Lots 6 and 7 Concession 6 to correct soil erosion along the banks of the drain which in turn was presenting an obstruction to flow in the drain. The areas of concern on the Dewit-Richter Municipal Drain were inspected by the drainage superintendent on May 5th, May 15th and July 10th, 2014. The recommendation for maintenance and installation of armour stone was included in a report from The Greer Galloway Group Inc. under the signature of Mr. Cory Grant, dated September 8, 2014.

The report stated "it is recommended that large armour stone be placed on the north and south banks of the drain immediately downstream of the culvert on County Road 22 (Sta. 48+00 to 46+50)". (For reference County Road 22 forms the dividing line between Lots 6 and 7 Concession 6.) "This will mitigate future damage caused by the slight angle of the road culvert compared to the alignment of the drain. On the immediate upstream side of the County Road 22 culvert it is recommended that the south bank be repaired and lined with armour stone over filter cloth to prevent future failure of the bank. Heavier, larger stone will be more effective at preventing erosion and damage to the hydro pole and other services located here (Sta. 48+90). We recommend the remainder of the drain from 48+90 through 65+00 have the collapsed material cleaned out and the first vertical 1m of the south drain bank graded to a 3:1 slope to mitigate the undercutting of the banks that is occurring."

The station chainages reference in the report noted above are based on the report completed by W. J. Johnston dated February 13th, 1973. The stationing in the 1973 report was in imperial units, therefore, distances referenced herein presumably are in feet. This reference to stationing from the 1973 report was likely used because there was also inspection of and recommendations related to the Schutten Branch which is still governed by the 1973 report. The current report for the Dewit-Richter Municipal Drain, by Robinson Consultants Inc., dated May 11, 2009 has a metric chainage of 11+195 at the centerline of County Road 22 which is the division between Lots 6 and 7 Concession 6. The chainage from the current 2009 report is used on Dwg. 18022-D2 in Appendix A of this report.

The proposed maintenance was tendered in the fall of 2014 with a completion date of December 15, 2014. Based on the information provided by the Township to the Acting Drainage Referee, the final cost of the maintenance work on the drain in Lots 6 and 7 Concession 6 was \$17,145.74.

Section 74 of the Drainage Act R.S.O. 1990 states: "Any drainage works constructed under a by-law passed under this Act or any predecessor of this Act, relating to the construction or improvement of a drainage works by local assessment, shall be maintained and repaired by each local municipality through which it passes, to the extent that such drainage works lies within the limits of such municipality, at the

expense of all the upstream lands and roads in any way assessed for the construction or improvement of the drainage works and in the proportion determined by the then current by-law pertaining thereto until, in the case of each municipality, such provision for maintenance or repair is varied or otherwise determined by an engineer in a report or on appeal therefrom."

The current Engineer's Report, James Reilly/Dewit-Richter Municipal Drain, Modifications and Improvements by 'Robinson Consultants Inc., dated May 11, 2009 (By-Law No. 2009-53) under Section 12.0 Maintenance states the following: "We recommend that the cost of future maintenance be assessed in the same proportion as the Future Maintenance-Schedule of Assessment, Schedule B through E in Appendix A of this report. Therefore, maintenance costs are to be levied against the lands upstream from the location of the maintenance work pro-rata with the assessments for Benefit and Outlet, all of which is in accordance with the Drainage Act.

The maintenance of the James Reilly/Dewit-Richter Municipal Drain considered under the terms of this report, including channel maintenance and erosion control installations, shall be the responsibility of the Township of Edwardsburgh/Cardinal as previously noted. Maintenance of private culverts and fences shall be the responsibility of the adjacent landowner. Maintenance of public road culverts shall be the responsibility of the Road Authority, however, if the Road Authority does not complete the maintenance, then the Township of Edwardsburgh/Cardinal will complete the maintenance and charge the cost to the Road Authority."

Based on a review of Section 74 of the Drainage Act, R.S.O. 1990 and the wording in the current Engineer's Report the works undertaken in 2014 under the direction of the Drainage Superintendent qualify as maintenance. As described in the report by Greer Galloway Group Inc. and as tendered in the fall of 2014 the work to be undertaken was ditching with hydraulic excavator and rock protection with filter cloth 450mm thick, with provisional items for removal and re-erection of farm fences and hand seeding. These items correspond with the provisions in the current Engineer's Report for channel maintenance and erosion control installation. In addition to cleaning the sediment accumulated in the bottom of the drain, for a portion of the drain the south bank was flattened to 3:1 to mitigate the undercutting of the banks. This qualifies as maintenance in the spirit of insuring that the drain functions as intended. Based on the observations in the field by the Drainage Superintendent there was a demonstrated need to replace rip-rap erosion control that had failed and to extend it to prevent further erosion of the stream banks downstream of the culvert under County Road 22. It was also observed that immediately upstream of the culvert under County Road 22 there was a need to add additional armour stone lining to prevent further failure of the bank.

Although there is not a specific breakdown of the amount, hence the cost of the armour stone erosion control installation associated with the area upstream and downstream of the County Road 22 culvert, this is maintenance work associated with the Road

Authority culvert. This is the area where the majority of the armour stone erosion control was installed. Therefore, 80% of the cost of this work should be charged to the County Road Authority as an Assessment for Special Benefit. The total value of the armour stone rock protection was \$5,967.50, therefore \$4,774.00 is assessed to the County as a special benefit and \$1,193.50 is assessed to the upstream property owners.

The remainder of the costs associated with the maintenance undertaken in 2014 is to be assessed to the properties within the area and upstream of where maintenance was completed pro-rata in accordance with the Assessment Schedules in the 2009 Engineer's Report as incorporated in Township By-Law No. 2009-53. The distribution of assessment for maintenance completed on the drain in Lots 6 and 7 Concession 6 is included on the schedule in Appendix B of this report.

4.6 Assessment Schedule


Costs associated with this report will be assessed in accordance with the instructions from the Acting Drainage Referee with respect to the Bruce and Carmichael properties in proportion to the expenses incurred and time expended to document the works completed, including field surveys and preparation of plans as required. A portion of the cost of this report is also assigned to the documentation and reporting on the maintenance completed in Lots 6 and 7 Concession 6. The portion of the cost of the Engineer's Report related to maintenance in Lots 6 and 7 Concession 6 is divided equally amongst the County of Leeds and Grenville (County Road 22), the upstream land owners and the Township of Edwardsburgh/Cardinal.

Maintenance costs in Lots 6 and 7 Concession 6 are distributed as Assessment for Special Benefit to the County Road Authority and Assessment to upstream properties pro-rata in accordance with the assessment schedules in the Engineer's Report James Reilly/Dewit-Richter Municipal Drain Modifications and Improvements, by Robinson Consultants Inc., dated May 1, 2009.

The Assessment Schedule for the distribution of costs associated with this report and maintenance in Lots 6 and 7 Concession 6 is included in **Appendix B**.

All of which is respectfully submitted,

ROBINSON CONSULTANTS INC.

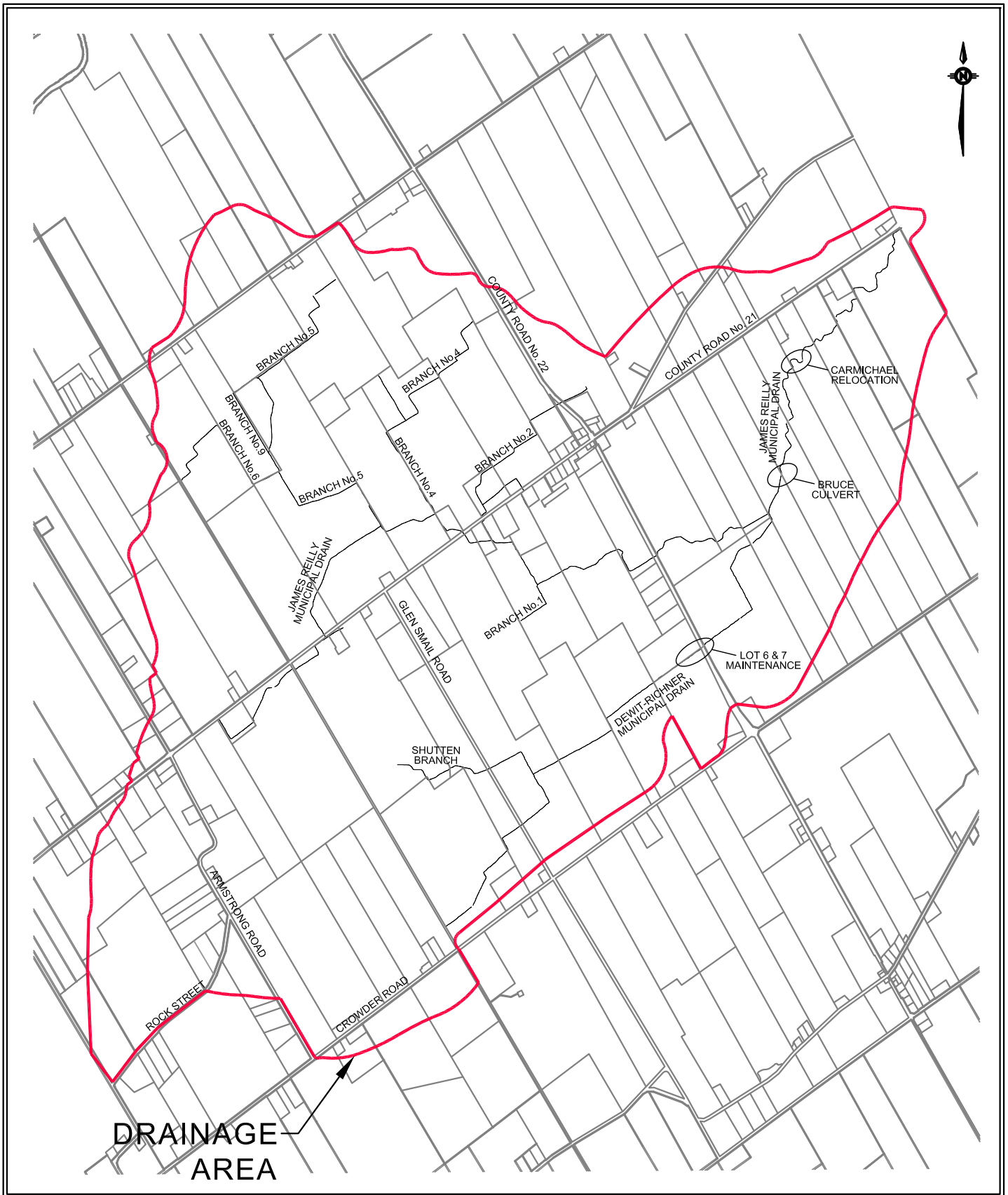


A.J. Robinson, P.Eng
Drainage Engineer



Appendix A

Plans and Drawings



Robinson
Consultants

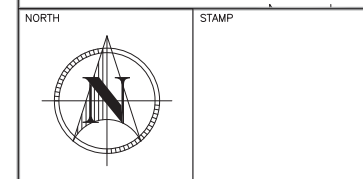
Title		Dwg. No.
LOCATION PLAN		18022-A1
Project		Job No.
JAMES REILLY / DEWIT MUNICIPAL DRAIN		18022
Scale		Date
NTS		OCTOBER 2019

- NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
 2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
 3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
 4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
 5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
 6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A A DETAIL NO.
B B DRAWING NO. - WHERE DETAILED

LEGEND

CULVERT EXTENSION
ARMOUR STONE
RIP-RAP



PROJECT
JAMES RILEY/ DEWIT
RICHTER MUNICIPAL
DRAIN

DRAWING TITLE
PROPOSED CULVERT
LAYOUT

05		
04		
03		
02		
01	ISSUED FOR REVIEW	22/05/13

DESIGNED BY
J. GUEST

DRAWN BY
A. HATTON

REVIEWED BY
J. GUEST

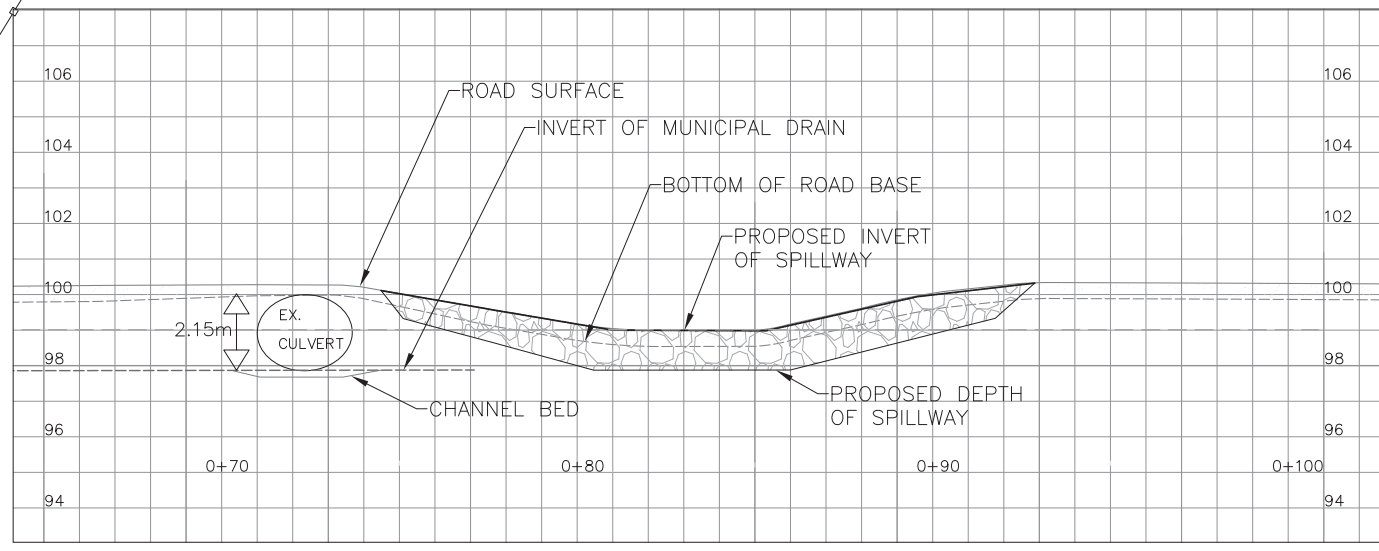
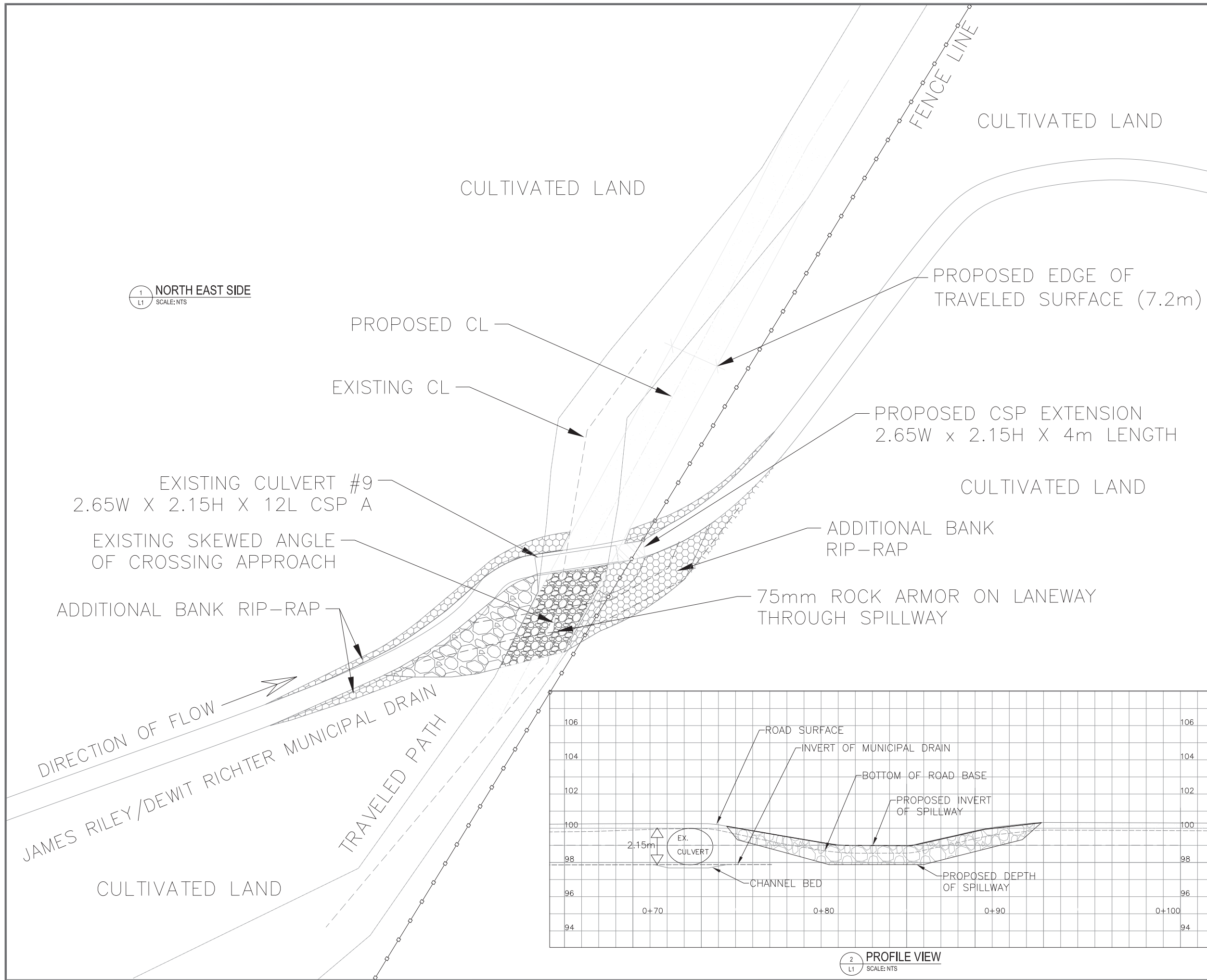
APPROVED BY
S. BLAKEY

PROJECT DATE
22/05/2013
(DD/MM/YYYY)

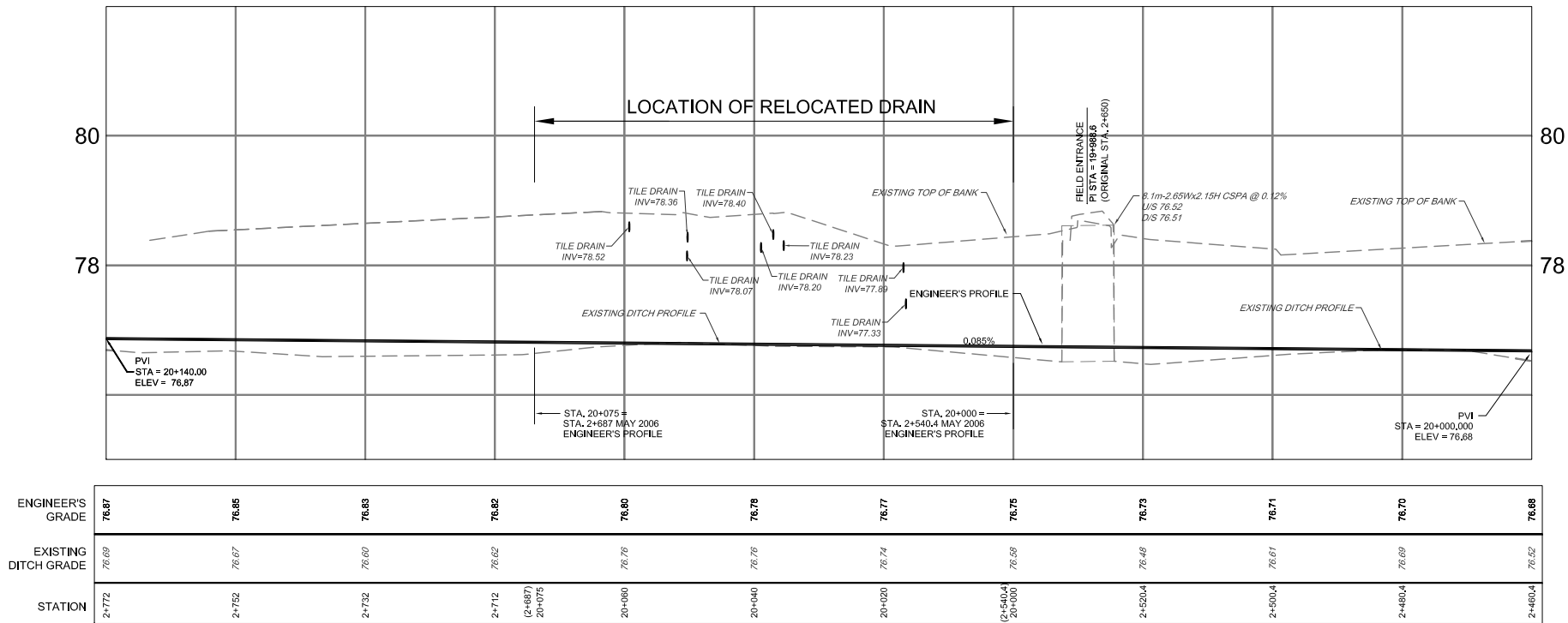
PROJECT #
SCALE
HOR: 1:250
VER:

DRAWING #
L1

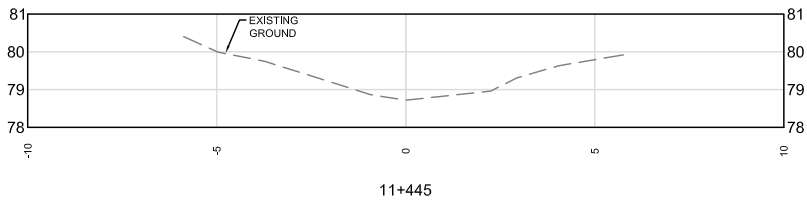
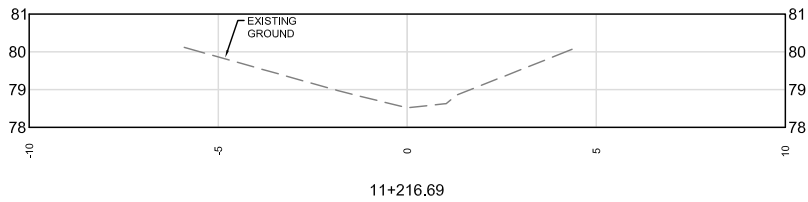
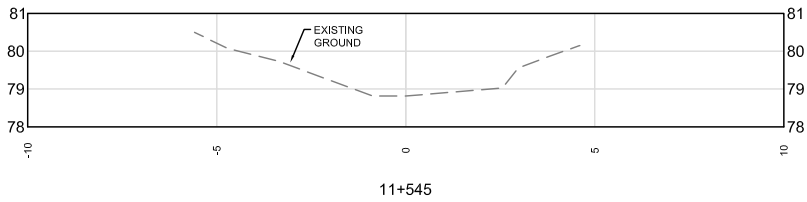
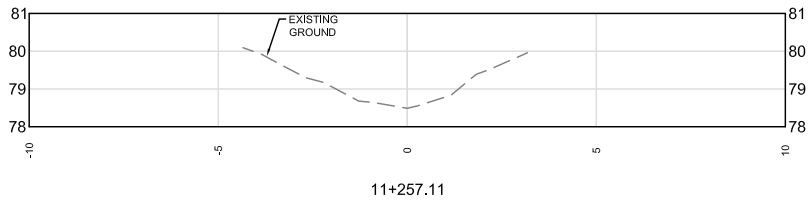
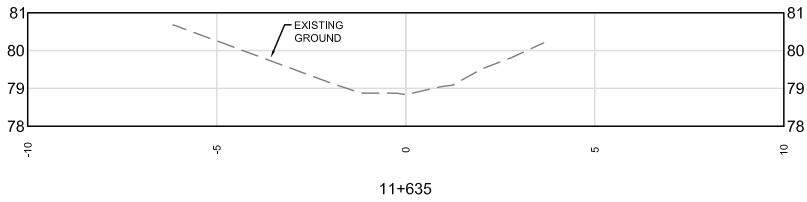
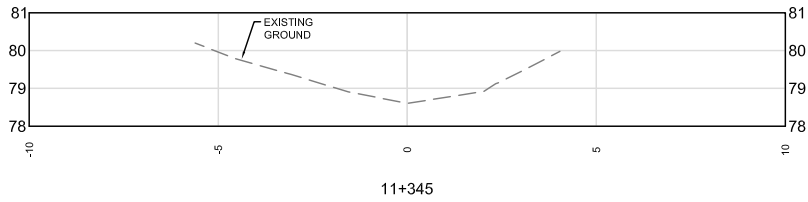
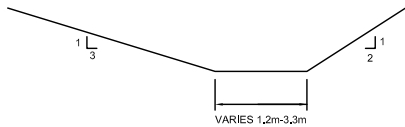
1 NORTH EAST SIDE
L1 SCALE: NTS



2 PROFILE VIEW
L1 SCALE: NTS



TYPICAL CROSS SECTION
STA. 11+207 to STA. 11+700



Appendix B

Assessment Schedule

Schedule A
Assessment for Section 78 Report and Maintenance
James Reilly/Dewit-Richter Municipal Drain

Assessed	Location of Work	Assessment		
		Section 78 Report Contribution	Maintenance	Total
Robert and Betty Carmichael	Lot 3, Concession 6	\$4,800.00		\$4,800.00
David and Arlene Bruce	Lot 4, Concession 6	\$3,900.00		\$3,900.00
County Road 22 Leeds and Grenville	Lots 6 & 7, Concession 6	\$1,400.00	\$4,770.00	\$6,170.00
Upstream Land Owners	Lots 6 & 7, Concession 6	\$1,400.00	\$12,375.74	\$13,775.74
Township of Edwardsburgh/ Cardinal	Lots 6 & 7, Concession 6	\$1,400.00		\$1,400.00
Total		\$12,900.00	\$17,145.74	\$30,045.74